



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

DOT HS 808 287

June 1995

Final Report

Experimental Evaluation of Sobriety Checkpoint Programs

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' name or products are mentioned, it is because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

1. Report No. DOT HS 808 287	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle <i>Experimental Evaluation of Sobriety Checkpoint Programs</i>		5. Report Date June 1995	
7. Author(s) Jack W. Stuster, PhD, & Paul A. Blowers, MA		6. Performing Organization Code n/a	8. Performing Organization Report No. n/a
9. Performing Organization Name and Address Anacapa Sciences, Inc. P.O. Box 519 Santa Barbara, CA 93102		10. Work Unit No. (TRAIS) 11. Contract or Grant No. DTNH22-91-C-07204	
12. Sponsoring Agency Name and Address National Highway Traffic Safety Administration 400 Seventh Street, SW Washington, D.C. 20590		13. Type of Report and Period Covered Final Report	
15. Supplemental Notes Paul J. Tremont, PhD, was the Contracting Officer's Technical Representative for this project.		14. Sponsoring Agency Code	
16. Abstract <p>Six California communities were selected to participate in the study on the basis of comparability and isolation from each other. Four of the communities' police departments implemented programs of sobriety checkpoints; the checkpoint configurations varied in terms of staffing level (three to five officers vs eight to twelve) and mobility of the checkpoints (remaining in one location for the evening vs three sequential locations within the city). The fifth community's police department implemented a program of aggressive roving patrols that focused on DWI enforcement. The sixth community refrained from implementing any special DWI enforcement effort for the duration of the project and served as the experimental comparison site; statewide totals provided additional comparison. The level of effort devoted to the roving patrols was equal to the officer hours required to operate the high-staffing level checkpoints. The California Office of Traffic Safety provided each of the checkpoint departments with a trailer and equipment-set necessary to conduct their programs of frequent checkpoints (18 in a nine-month period). Committees of concerned local citizens were organized to develop and implement vigorous public information and education programs to support the special enforcement efforts.</p> <p>Crash, arrest, and BAC data were obtained from the participating police departments and a state reporting system; and, data regarding public awareness of the programs and perceived risk of arrest were obtained through a survey conducted at local Department of Motor Vehicles offices. There were no significant differences in the decline in alcohol involved crashes among the four configurations of checkpoints tested in this study. Thus, decisions regarding an optimum checkpoint configuration can be made on the basis of other factors, including cost, traffic volume, and demographics. Further, the checkpoint communities experienced declines in the proportions of alcohol-involved crashes of 43, 32, 19, and 16 percent, while the state wide decline for communities was only eight percent; the proportion in the roving patrol community declined by five percent. Paired samples analyses found a statistically significant reduction in alcohol-involved crashes in one of the sobriety checkpoint programs, and for all of the checkpoint programs when data from the four checkpoint communities were combined. Logistic regression analysis indicated alcohol involved crashes declined significantly in the checkpoint sites, and did not change significantly at the comparison site during corresponding periods. Comparing with statewide data, the checkpoint communities' decline was more than 3 times greater.</p>			
17. Key Words Alcohol, DUI, DWI, highway safety, checkpoints, roving patrols, public information and education, deterrence		18. Distribution Statement This document is available to the U.S. public through the National Technical Information Service, Springfield, VA, 22161. Phone (703) 487-4650	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

EXPERIMENTAL EVALUATION OF SOBRIETY CHECKPOINT PROGRAMS

EXECUTIVE SUMMARY

The purpose of the study was to determine the absolute and relative impact of four differently-configured sobriety checkpoint programs and one program of roving patrols on alcohol-involved crash statistics, public awareness, perceived risk of arrest, and other dependent measures.

FIELD STUDY

Six California communities were selected to participate in the study, on the basis of comparability and isolation from each other. Four of the communities' police departments implemented programs of sobriety checkpoints; the checkpoint configurations varied in terms of staffing level (three to five officers vs eight to twelve) and mobility of the checkpoints (remaining in one location for the evening vs three sequential locations within the city). The fifth community's police department implemented a program of aggressive roving patrols that focused on DWI enforcement. The sixth community refrained from implementing any special DWI enforcement effort for the duration of the project and served as the experimental comparison site; statewide totals (less the project communities) provided additional comparison. The level of effort devoted to the roving patrols was equal to the officer hours required to operate the high-staffing level checkpoints. Project staff assisted in obtaining grants from the California Office of Traffic Safety to provide each of the checkpoint departments with a trailer and equipment-set necessary to conduct their programs of frequent checkpoints (18 in a nine-month period).

Project staff organized traffic safety program support committees in each of the five experimental communities; the committees were composed of police managers, local leaders, and concerned citizens. The committees, facilitated by project staff, planned and implemented extensive publicity programs to elevate public awareness of the local DWI special enforcement effort. The publicity campaigns included press conferences, posters, brochures, supermarket drop-ins, public speakers, billboards, media events, and award-winning TV and radio public service announcements, among other approaches.

RESULTS

Crash, arrest, and BAC data were obtained from the participating police departments and a state wide reporting system. The primary dependent measure of program impact was the proportion of all injury and fatal crashes that was alcohol-involved (BAC greater than .01). No significant differences in effectiveness of the four sobriety checkpoint programs were found. However, the checkpoint communities experienced declines in the proportions of alcohol-involved crashes of 43, 32, 19, and 16 percent, while the state wide decline for communities was only eight percent; the proportion in the roving

patrol community declined by five percent. Paired samples analyses found a statistically significant reduction in alcohol-involved crashes in one of the sobriety checkpoint programs, and for all of the checkpoint programs when data from the four checkpoint communities were combined. In other words, while the state wide totals declined, alcohol-involved crashes in the checkpoint communities declined, on average, at a rate three and a half times the combined rate of all other communities in the state.

Interrupted time series analyses were performed to calculate the general declines in crash statistics during the field study and the five year period preceding implementation of the experimental programs. The time series analyses found a significant decline in the number of alcohol-involved crashes in all of the sites, including the comparison community.

However, the comparison community also experienced a near significant decline in *non*-alcohol-involved crashes, while the experimental communities either experienced slight declines or increases in the number of non-alcohol-involved crashes (a statistically significant increase in one of the sites). In other words, the significant decline in the number of alcohol-involved crashes measured in the comparison community by the time series analysis is offset by the nearly significant and atypical decline in *all* crashes experienced there. This was tested using logistic regression analysis. The analysis showed that checkpoint sites experienced a significant *reduction* in the ratio of alcohol to non-alcohol involved crashes (pre to during), while in the comparison site no significant change occurred during the corresponding periods. The significant declines found in the experimental communities are limited to alcohol-involved crashes, and attributable to the general deterrence programs.

Data regarding public awareness of the programs and perceived risk of arrest, if DWI, were obtained through a survey conducted by the California Department of Motor Vehicles on behalf of Anacapa Sciences and NHTSA. Data indicate that public awareness of the programs was elevated in all five of the communities, with awareness of the checkpoint programs converging at about 80 percent of the public at the ends of the none-month experimental programs. Awareness of the roving patrol program doubled during the field study, but at 30 percent remained considerably below that of the checkpoint programs. Awareness of general DWI enforcement in the comparison community remained flat for the duration of the field study. Perceived risk increased significantly in one of the checkpoint communities and approached significance in another. In addition, it is important to note that baseline awareness levels were high for non-existent checkpoint programs; that is, none of the participating police departments had ever conducted a checkpoint program before, yet the majority of those who responded during the baseline period believed that their department was conducting a program of sobriety checkpoints. In contrast, the department that conducted the roving patrols previously had conducted a program of special DWI patrols; baseline awareness of the roving patrols was only 16 percent, compared to 50 to 67 percent in the checkpoint communities.

IMPLICATIONS

This study found that sobriety checkpoint programs that are accompanied by vigorous publicity campaigns significantly increase public awareness of DWI enforcement and reduce drinking and driving, as measured by the incidence of alcohol-involved crashes. No significant differences in the decline in alcohol involved crashes among the four configurations of sobriety checkpoint programs tested in this study were found. Thus, decisions regarding an optimum checkpoint configuration could be made on the basis of other factors, including cost, traffic volume, and demographics. In regard to costs, the police labor costs for conducting the four checkpoint programs ranged from a low of \$15,336 to a high of \$43,848, depending upon the staffing level.

Public awareness of the five experimental programs increased significantly. Further, survey data indicate that sobriety checkpoints are far more noteworthy or memorable than roving patrols, possibly because roving patrols may be perceived as similar to traditional DWI enforcement.

It is important to note that the costs of a general deterrence program can be offset--indeed, repaid with significant returns by reducing the local incidence of alcohol-involved crashes. For example, during the current study sixty-six fewer alcohol-involved crashes occurred in the four checkpoint communities during the experimental period than in the nine-month period one year earlier. At least 50 of those prevented crashes were attributable to the experimental programs, based on the analyses. It is estimated that those prevented crashes resulted in a savings to society of more than three million dollars. In short, it is clear that very few prevented crashes are required to achieve a savings to society that more than compensates for the program costs.

TABLE OF CONTENTS

	Page
CHAPTER 1: INTRODUCTION	1
Background.....	1
The Theory of General Deterrence	2
Sobriety Checkpoints	4
CHAPTER 2: THE RESEARCH.....	7
Developed Work Plan	8
Developed Site-Selection Plan	8
Selected Sites	9
Developed Evaluation Plan.....	9
Developed Implementation Plan	11
Recruited Police Departments	12
Organized Program Support Committees.....	14
Implemented Programs	14
Special Enforcement	14
Sobriety Checkpoints.....	14
Special Roving Patrols	18
Publicity	19
Monitored Enforcement and Publicity Programs.....	20
Collected Data	22
Entered and Analyzed Data/Prepared Final Report	22
CHAPTER 3: RESULTS.....	23
Results of the DMV Survey.....	23
Public Awareness of the Experimental Programs.....	24
Perceived Risk of Detection and Arrest	31
Public Support for DWI Enforcement Programs	35
Effects of the Experimental Programs on Measures of Traffic Safety	38
Alcohol-Involved Crashes	38
DWI Arrests	44
DWI Convictions	48
DWI Arrests by Other Means	48
Other Measures	48
Are There Differences in Effectiveness in the Four Checkpoint Configurations Evaluated?	49
Staffing Level	49
Mobility	52
Checkpoint Programs Compared to the Control	52
Evaluation of Administrative Factors.....	53
Labor Costs	53
Equipment Costs	53

TABLE OF CONTENTS (Continued)

	Page
Numbers of Vehicles Stopped	54
Avoidance of Sobriety Checkpoints	55
Acceptance of Special Enforcement by Police Officers	55
CHAPTER 4: IMPLICATIONS	59
Effects of Checkpoint Staffing Level and Mobility	59
Overall Effects of Checkpoint Programs	60
Implications of the DMV Survey	60
Implications of the Measures of Traffic Safety	62
DWI Arrests	64
DWI Convictions	65
Implications of the Evaluation of Administrative Factors	65
Labor Costs	65
Equipment Costs	65
Avoidance of Checkpoints	66
Acceptance of Special Methods by Law Enforcement	66
Savings from Avoided Crashes	67
Conclusions	69
NOTES	71
REFERENCES	79
Appendix A: Discussion of the Legal Issues Concerning the Conduct of Sobriety Checkpoints	A-1
Appendix B: Examples of DMV Survey Questionnaires	B-1
Appendix C: Summary of Kick Off Press Conferences	C-1
Appendix D: Examples of Newspaper Articles About the Experimental Programs	D-1
Appendix E: Examples of Public Information and Education Materials	E-1
Appendix F: Summary of Program Support Committee Activities by Month	F-1

LIST OF FIGURES

Figure		Page
1	The general deterrence model as applied in the current study	3
2	Sequence of major project tasks	7
3	Summary of the research design	11
4	Geographic distribution of sites	13
5	Summary of responses to Question 5, 6, and 7.....	25
6	Summary of responses to survey Question 8	30
7	Summary of responses to survey Questions 9 and 10	32
8	Summary of responses to survey Question 9	33
9	Summary of responses to survey Question 10	34
10	Summary of responses to survey Questions 11, 14, and 15	36
11	Summary of responses to survey Questions 12 and 13	37
12	Proportions of all injury and fatal crashes that were alcohol involved.....	39
13	Numbers of DWI arrests at checkpoints	45
14	Numbers of DWI arrests by deterrence program	46
15	Numbers of vehicle contacts at checkpoints	47
16	Combined arrest rates of the four checkpoint programs	47
17	Numbers of single-vehicle crashes	50
18	Numbers of hit-and-run crashes	51

LIST OF TABLES

Table		Page
1	Summary of Program Evaluation Plan	10
2	Site-Selection and Recruitment Summary	13
3	Partial List of Publicity Activities Implemented by the Five Program Support Committees	21
4	Question 5: Summary of Results	26
5	Question 6: Summary of Results	27
6	Question 7: Summary of Results	28
7	Summary of Alcohol-Involved Injury/Fatal Crashes, August–April: 1991-92 vs 1992-93	41
8	Summary of Alcohol-Involved Injury and Fatal Crashes August–April: 1991-92 vs 1992-93	42
9A	Summary of the Results of the Time Series Analyses: Changes in Numbers of Injury and Fatal Crashes that Involved Alcohol	43
9B	Summary of the Results of the Time Series Analyses: Changes in Numbers of Injury and Fatal Crashes that Did Not Involve Alcohol	43
10	Numbers of DWI Arrests by Programs and by Means Other than Special Enforcement	48
11	Summary of Program Labor Costs.....	53
12	Summary of Vehicle Contacts Made by the Checkpoint Programs	54
13	Summary of Program Effects: Survey Results	61
14	Summary of Program Effects: Program Impacts.....	63
15	Estimated Savings to Society Resulting from the Four Sobriety Checkpoint Programs.....	68
16	NHTSA’s Estimated Savings to Society Resulting from the Four Sobriety Checkpoint Programs	68

ACKNOWLEDGMENTS

A project as complex as the one documented in this report cannot be conducted successfully without incurring many debts of gratitude along the way. In this regard, the project team is grateful for the guidance and cooperation of many individuals and organizations. We particularly appreciate the cooperation of the police managers of the six participating departments who accepted our invitations to participate in this important study; the study was made possible by the dedication of these managers to improving traffic safety in their communities. We are also indebted to the police officers of the participating departments whose motivation and professionalism were rewarded by fewer alcohol-involved traffic crashes to which they must respond. Finally, the project team is grateful to the many concerned local citizens who organized as committees to support the special enforcement programs. All of the committee members lead busy lives, yet they gave unselfishly of their most precious commodity--time--to assist their local police departments' efforts to reduce the incidence of alcohol-involved crashes. Some of those who contributed the most to the success of the project in their communities are listed below.

Modesto

Chief Gerald McKinsey
Chie Puaul Jefferson
Captain Tom Donalson
Captain Bob Guthrie
Sergeant Dave Young
Sergeant Burl Condit
Sergeant Joe Aja
Ms Judy Tognolini
Dr. Michael Rossinni

Ontario

Chief Lowell Stark
Sergeant Jim Gettings
Sergeant Bob Ferguson
Ms Cecelia Huggins
Mr. Al Irwin
Mr. Bill Meyrahn

Santa Rosa

Chief Sal Rosano
Lieutenant Rod Sverko
Sergeant Dave Hayes
Mr. Sam Vanarsdale
Ms Nancy Hauser

Ventura

Chief Richard Thomas
Captain Ken Thompson
Lieutenant Steve Bowman
Sergeant George Morris
Corporal John Turner
Dr. Patrick Horton

Visalia

Chief Bruce McDermott
Sergeant Mike McGee
Ms Brenda Kasdorf
Mr. Michael Harrison
Ms Linda Redd

Santa Barbara

Chief Richard Breza
Lieutenant John Thayer
Ms Christine Nail

The project team is also grateful for the assistance of the California Highway Patrol, in particular, Assistant Commissioner Ted Starr, Lieutenant Greg Manuel, and Bev Christ, Gloria Smith, and Alice Huffacker of the CHP's traffic records system. The public awareness survey would not have been possible without the sustained cooperation of many Department of Motor Vehicles personnel, including John Raymond, Dona Brown, Cathy Anderson, Irma Reynoso, Francisco Gamboa, Mary McCabe, Larry Johnson, and Dolores Colon. The project also benefited from close cooperation with the California Office of Traffic Safety; all participants in the study appreciated the efforts of Peter O'Rourke, Marilyn Sabin, Arnold Trotter, Michelle Meadows, and especially Chris Murphy, whose energy is only matched by his knowledge of traffic safety issues.

Also recognized for guidance provided during the study are Captain Mike Porrazzo and Sergeant Doug Howell of the CHP, and Lieutenant Ray Schultz, from the Albuquerque, New Mexico, Police Department.

Finally, the authors of this report wish to acknowledge the contributions of others who participated in this important research project, including Liane Bakowski, Barbara Gates, Peggy Liborio, Dr. Susan Fischer, Dr. Elizabeth Trebow, and statistician Dr. Richard McCleary.

CHAPTER 1: INTRODUCTION

This report presents the results of a research project conducted by Anacapa Sciences, Inc., for the National Highway Traffic Safety Administration (NHTSA). The objective of the research was to evaluate and compare the effects of five separate DWI (Driving While Impaired) enforcement programs. Four of the experimental programs involved the implementation of relatively frequent, but differently configured sobriety checkpoints; the other experimental program involved the conduct of roving patrols that focused on DWI enforcement. All five experimental programs were accompanied by extensive publicity to elevate public awareness about the special enforcement. A sixth community served as a comparison site, refraining from any special DWI enforcement or publicity. The research documented in this report was conducted during the 24-month period, from October 1991 through September 1993.

The report is presented in four chapters. This brief introductory chapter provides a statement of the problem addressed by DWI-countermeasure programs, and a summary of the theoretical bases of the research project. Chapter 2 describes the steps followed by the research team in planning and implementing the study. Chapter 3 presents the results of the research effort. Finally, Chapter 4 provides a discussion of the implications of the study to traffic safety experts, and to law enforcement and public policy managers.

BACKGROUND

Nearly 1.3 million people have died in traffic crashes in the United States since 1966, the year of the National Traffic and Motor Vehicle Safety Act (which led to the creation of NHTSA in 1970). During the late 1960s and early 1970s more than 50,000 people lost their lives each year on our nations streets, roads and highways. Traffic safety has improved considerably since that time: by 1991 the annual death toll had declined to about 41,000, the lowest in three decades, even though the numbers of drivers, vehicles, and miles driven had all increased. The dramatic improvement in traffic safety is more clearly evident in the change in fatality rate per 100 million vehicle miles traveled: The fatality rate fell from 5.5 in 1966 to 1.9 in 1991--the lowest rate since records have been maintained (FARS--Fatal Accident Reporting System--91), representing a 65 percent improvement in traffic safety, as measured by this key indicator. In other words, although there were "only" 9,000 fewer fatalities in 1991 than in 1966, when miles traveled are considered the likelihood of being killed in traffic in 1966 was nearly three times that of 1991!

Despite the recent substantial improvements in traffic safety, motor vehicle crashes remain a leading cause of death in the US, ranked sixth behind heart disease, cancer, stroke, chronic pulmonary diseases, and pneumonia. At 41,000 per year, motor vehicle fatalities account for 2.2 percent of all deaths (FARS 91).

The consumption of alcohol, resulting in the impairment of psychomotor and cognitive skills, has been identified as a factor in a large portion of motor vehicle crashes. NHTSA defines a crash as alcohol-related if any individual involved in the crash had a blood alcohol concentration (BAC) of .01 grams per deciliter or greater. NHTSA's National Center for Statistics and Analysis estimates that 56.7 of all fatal crashes in 1982 were alcohol-related, compared to 47.9 percent in 1991. In other words, alcohol-related motor vehicle fatalities have declined 15.5 percent since 1982, the first year for which reliable estimates of alcohol-involvement are available. It is important to note that the largest decreases are observed in the youngest and oldest age groups: Alcohol-related fatal crashes declined 32 percent during the decade for drivers aged 16 to 20 years, and 29 percent for drivers 65 years and older.

The significant declines in alcohol-related fatalities and declines in BACs obtained in roadside surveys (Lund and Wolfe, 1989) are attributable to several factors, including public information and education programs, traffic safety legislation, a general aging of the population, and law enforcement effort. The growth of organizations such as Mothers Against Drunk Driving (MADD) is evidence of the public's recognition of the problem of impaired drivers and the public's support for NHTSA's traffic safety objectives.

Despite the significant improvements in traffic safety during the past 25 years, particularly during the past decade, more than 40,000 people still perish each year as a result of motor vehicle crashes. The current US traffic fatality rate amounts to a daily average of about 126 people. Because almost half of these traffic fatalities are alcohol-related, driving while intoxicated should continue to be one of our most serious social concerns.

THE THEORY OF GENERAL DETERRENCE

The deterrence paradigm is rooted in the political philosophy of Jeremy Bentham (1789) and Cesare Beccaria (1764) who argued that human nature is essentially hedonistic and that crime is motivated by the potential for gain. They further reasoned that deviant behavior can be deterred by the prospect of certain, swift, and severe punishment. That is, policing and punishment not only serve the goals of retribution and incapacitation, but also can achieve general deterrence by discouraging other would-be offenders from engaging in the prohibited acts (MacCoun, 1993). All modern versions of deterrence theory are applications of this ancient model; central to the model is the notion that an individual's behavior is the result of a rational, decision-making process. In this regard, the deterrence paradigm encompasses both specific and general deterrence. In specific deterrence a specific individual is prevented from committing deviant acts by removing all opportunity for choosing to engage in the prohibited behavior; specific deterrence can be accomplished by execution or incarceration, but other means are available, as well. General deterrence, however, does not seek to remove the individual from the temptation nor to eliminate the desire or motivation to commit the prohibited act. Rather, the general deterrence approach, "...seeks instead to

burden the prohibited act with sufficient negative consequences to constrain the potential delinquent from committing it" (Ross, 1992: 7).

Figure 1 illustrates the theory of general deterrence as it was applied in the current study in an attempt to influence drinking and driving behavior. The figure illustrates the sequence of real and hypothetical events, beginning with special police enforcement activity and publicity about the special enforcement. Next, according to the model, the publicity increases public awareness about the special enforcement, which, in turn, generates the public perception that the risk of detection and arrest has been elevated. If the perceived risk becomes sufficiently high, individuals will choose to refrain from driving a motor vehicle after drinking alcohol, according to the general deterrence model.

It is evident from this discussion that central to the theory of general deterrence are assumptions about how an individual's *perceptions* of risks and rewards motivate his or her choices to engage in prohibited behaviors. In essence, general deterrence is a theory of perceptions, not necessarily of realities. Because individuals' perceptions are influenced by many factors, primarily personal experience, some individuals will perceive the risk of arrest to increase with special enforcement, while others will not. Yet other individuals might perceive the risk of arrest to increase but for them the threshold of risk acceptance is beyond the level created by the general deterrence program (e.g., due to entrenched patterns, habits, or social support). The perceptions of a final category of individuals might remain unchanged because they just did not receive the message about the special enforcement. On the positive side for traffic safety, because perceptions are involved it is possible to exaggerate the risk in an attempt to deter (i.e., change) the behavior of individuals.

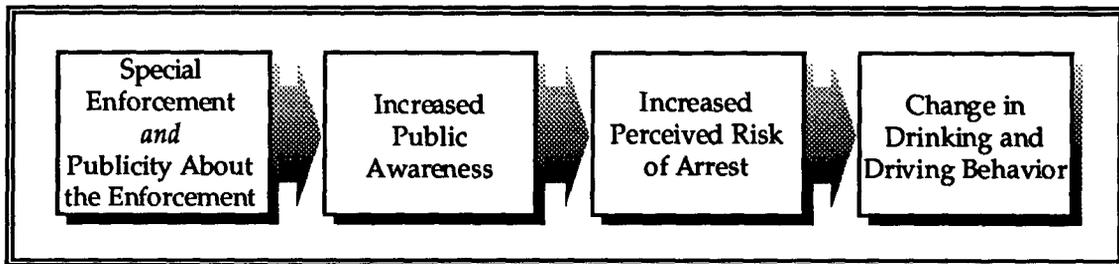


Figure 1. The general deterrence model as applied in the current study.

All general deterrence programs share the objective of increasing the perceived risk of detection or arrest. Thus, the barriers that apply to one program implemented to reduce the incidence of drinking and driving apply to them all. Jacobs (1989) has discussed the barriers to DWI general deterrence programs. Those barriers include,

- **Awareness.** If one is unaware of the risks involved in a deviant act, it is unlikely that perceptions or behavior will be altered.
- **Comparative Risk.** Most drinking drivers are aware that their driving performance is impaired by alcohol and the probability of crashing is increased when impaired. Thus, the risk of arrest would need to be elevated considerably to be greater than the risk of crashing.
- **Impaired Decision-Making.** The immediate decision to drive after drinking is usually made when the driver is impaired and not thinking clearly about risks and probabilities of crashing or being arrested.
- **Infrequent Behavior.** For some, driving while impaired is an infrequent or aberrational act, performed in response to situational conditions or stressors. Public policy is unlikely to eliminate individuals' infrequent or aberrational behavior.
- **Chronic Behavior.** Conversely, for some individuals driving while impaired is habitual, even a way of life. General deterrence approaches might increase the perceived risk of arrest but are unlikely to deter these chronic offenders from driving while impaired by alcohol.

General deterrence approaches have been applied to the drinking driver problem for decades. For example, the statutory formula of first offense-misdemeanor and second offense-felony has been a common application of general deterrence in the US since the 1930s (King and Tipperman, 1975). But, the systematic development and implementation of general deterrence programs aimed at drinking drivers did not begin until the early 1970s, following the establishment of NHTSA. In the words of Professor Jacobs,

In recent years most jurisdictions around the country have sought to increase the probability of apprehension by setting up special anti-drunk driving squads, initiating roadblocks, or simply making drunk driving arrests a higher priority. They have acted to increase the certainty of conviction by restricting plea bargaining and opportunities for pretrial diversion. In these efforts they have been aided by the citizens anti-drunk driving groups, which have undertaken "court watch" programs, letter writing (to judges) campaigns, and the public condemnation of what they regard as unduly lenient sentences (1989: 107).

SOBRIETY CHECKPOINTS

The current study focuses on sobriety checkpoints, a method for deterring motorists from driving while impaired (DWI) that has been promoted by NHTSA, and other traffic safety organizations, and adopted widely during the past decade. A sobriety checkpoint is a procedure in which law enforcement officers restrict the flow of traffic to permit officers to scrutinize motorists for visual indications of impairment and the odor of

alcohol on the drivers' breath. Sobriety checkpoints typically involve brief and courteous exchanges between officers and drivers, and only momentary delays in traffic.

Sobriety checkpoints represent the synthesis of two distinct law enforcement strategies: 1) random breath testing, and 2) roadblocks. Ross (1977) evaluated the "Breathalyser Blitz" conducted in Cheshire, England, which was the first published reference concerning a program in which motorists were stopped on the road randomly to be administered tests for BAC. Several similar efforts were implemented following this local-level English experiment, most notably in Australia. Cameron, Strang, and Vulcan (1980) reported the results of a random breath testing program in Victoria, Australia, and Homel (1988) evaluated a similar program in New South Wales. The New South Wales program is remarkable in both its aggressiveness and longevity. Patrol officers of the New South Wales Police Department are required to spend two hours of every eight-hour shift stopping traffic to conduct random breath tests; officers typically form pairs to perform this task more safely than is possible when working alone (Johnston, personal communication). The New South Wales Police Department is a state agency that provides police services to all communities within New South Wales, including Sydney and Canberra, the nation's capital; the program of random breath testing has been in operation for more than 15 years.

Although the "roadblock," the second component of sobriety checkpoints, is not a purely American invention, roadblocks have been used by US law enforcement for a variety of purposes, including agricultural inspections, searches for illegal immigrants, and most dramatically, as a means to apprehend fleeing criminals. Sobriety checkpoints rarely involve formal breath testing without some prior indication of alcohol-involvement, but every contact with a motorist is an opportunity for an informal breath test, when an officer asks a question that requires a motorist to speak. Detecting alcohol on a driver's breath is usually followed by additional questions, and quite likely, diversion of the vehicle from the checkpoint lane to administer a series of field sobriety tests to the driver.

Compton and Engle's (1983) brief review for NHTSA was the earliest technical account of roadblocks (i.e., sobriety checkpoints) as a general deterrence approach to DWI in the US; they summarized the early sobriety checkpoint efforts of the Delaware, Maryland, New York, and Arizona state police agencies (and a few local departments) and discussed the most salient issues concerning the conduct of sobriety checkpoints. Chief among the issues identified was the legality, specifically the constitutionality, of stopping motorists without probable cause for suspicion of criminal activity. The question of constitutionality retained its salience until June of 1990 when the US Supreme Court settled the matter by supporting a DWI arrest made at a checkpoint by the Michigan State Police. But to many people, including many law enforcement officers, sobriety checkpoints represent an infringement of constitutional guarantees. This concern is reflected in the 20 percent of states that have found sobriety checkpoints to be unconstitutional, and in the proportion of publications about checkpoints that concerns legal issues: 71 percent of the nearly 200 titles identified and reviewed about checkpoints

during this study have either addressed the legal issues exclusively or discussed the constitutionality of checkpoints as a major theme. Legal issues, while important, are outside the scope of the current study. However, included as Appendix A of this report is a discussion of the constitutional issues that was prepared for the four police departments that conducted sobriety checkpoint programs during the current research project.¹

Several evaluations of checkpoint programs have been published since the initial NHTSA review. Epperlein (1985) studied a brief checkpoint experiment in Arizona; Mercer (1984) reported on the impact of high-visibility "roadcheck" activity in British Columbia (between 1977 and 1980); Williams and Lund (1984) evaluated the impacts of checkpoint programs in Delaware; Voas, Rhodenier, and Lynn (1985) evaluated a checkpoint program in Charlottesville, Virginia; Levy (1988) and Levy, Shea, and Asch (1989) evaluated a checkpoint program in New Jersey; and, Lacy *et al.* (1990) describe checkpoint programs in Clearwater and Largo, Florida, (that are combined with roving patrols called "wolfpacks") and previous DWI countermeasure efforts that included checkpoints in Indianapolis, Indiana.

The results of the studies mentioned in the previous paragraphs have shown that checkpoints are highly visible, and there are indications that checkpoint programs might deter drinking and driving, at least temporarily. However, most of the previously-conducted checkpoint programs have involved relatively infrequent scheduling of sobriety checkpoints. For example, in the early program evaluated by Epperlein (1985), only two checkpoints in each of three sites were conducted, and the Clearwater/Largo study conducted by Lacy *et al.* involved 12 checkpoints during a 15-month period. Only the programs documented by Williams and Lund (1984) and Voas *et al.* (1985) were characterized by what might be called a vigorous program of sobriety checkpoints (i.e., 30 to 50, and 94 per year, respectively). Both of these studies found some improvement in traffic safety measures that were attributed to the checkpoint programs. But, the studies were conducted more than a decade ago when sobriety checkpoints were novel, and extremely controversial and newsworthy.

While sobriety checkpoint programs have been evaluated in the past, the current study is the first attempt to systematically evaluate the absolute and relative effectiveness of different checkpoint configurations, and to compare the impacts of checkpoint and roving patrol programs to a comparison site that receives no special treatment. Perhaps more important, the study has been conducted in an environment that more closely resembles the future than the past, regarding public awareness of checkpoints and attitudes about drinking and driving, in general. For these reasons, the results of the current study should be of interest to law enforcement managers and others responsible for determining appropriate public policy regarding drinking and driving.

CHAPTER 2: THE RESEARCH

The research documented in this report was conducted during the two-year period between October 1991 and October 1993. The study involved 12 major project tasks; the sequence in which those tasks were performed is illustrated in Figure 2. This chapter provides a step-by-step summary of those activities.

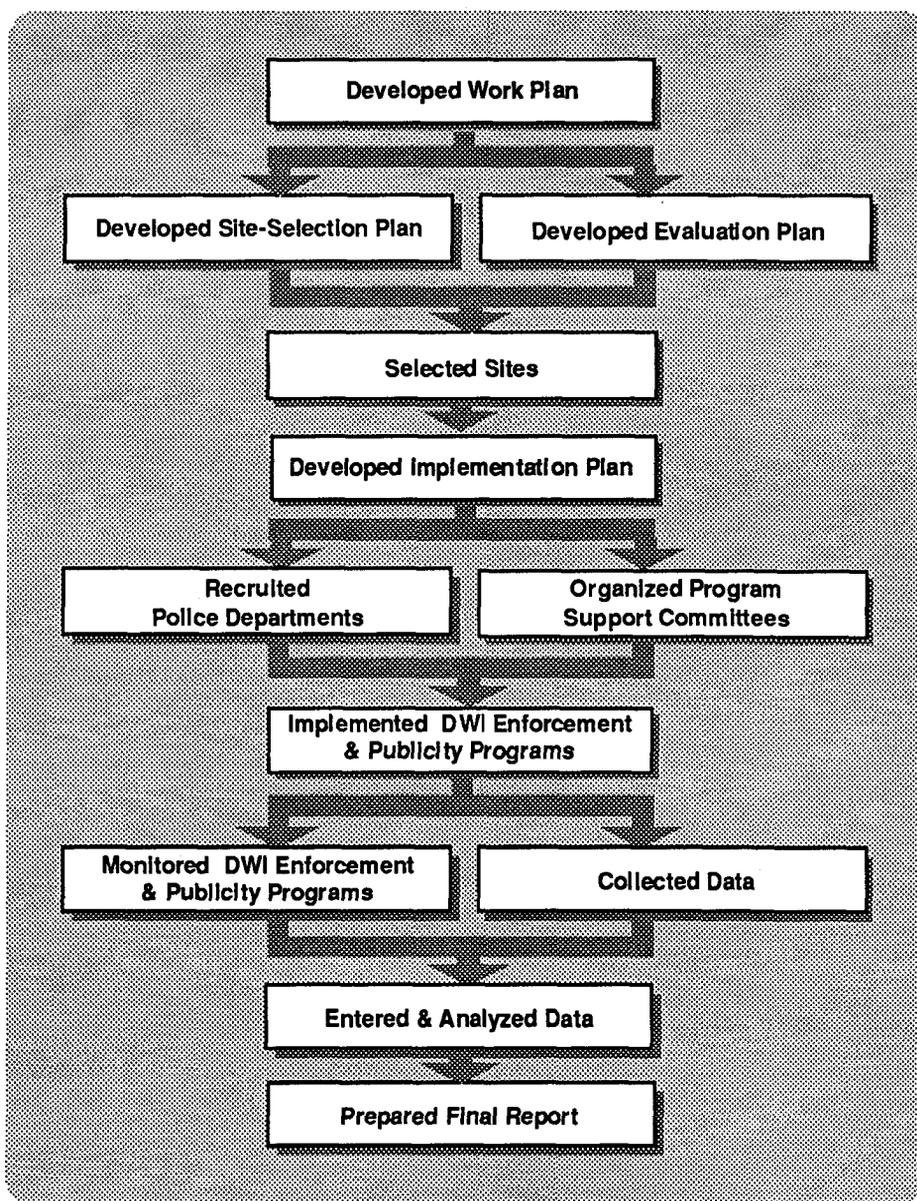


Figure 2. Sequence of major project tasks.

DEVELOPED WORK PLAN

The first several months of the project were devoted to planning, research design, and preparation of a detailed Work Plan that would guide the conduct of all subsequent project activities. The establishment of a formal, guiding plan early in the project was essential due to the complexity of the study, the large degree of coordination and cooperation required, and the necessity to control variables within the constraints imposed by field conditions. Further motivation for a comprehensive planning effort was derived from the social importance of the research and the likely value of study results to law enforcement managers and other community leaders from across the United States.

The Work Plan was based on the approach that was outlined in the original proposal to conduct the work and modified in response to subsequent communications with the Contracting Officer's Technical Representative (COTR) and other NHTSA traffic safety experts. Each section of the Work Plan addressed a separate component of the research project, including,

- Site-selection criteria,
- Enforcement procedures,
- Publicity programs,
- Community involvement plan,
- Program evaluation plan, and,
- Data analysis plan.

DEVELOPED SITE-SELECTION PLAN

Five criteria were established in the Work Plan to guide the selection of experimental and comparison sites. The criteria identified are listed below in what was determined to be the order of importance in obtaining study objectives.

- No previous checkpoint program.²
- Willingness of law enforcement managers to participate in the study.
- Comparability to other sites selected (e.g., local DWI statistics, DWI laws and procedures, proficiency level of officers in detecting impaired operators and conducting FSTs, demographic characteristics, etc.).
- Population size of about 100,000 residents, to ensure sufficient DWI-related measures of traffic safety.³
- Isolation/Insulation (i.e., separate from other project sites and larger communities, the news media of which might confound or dominate publicity efforts).

Application of the site-selection criteria led to the conclusion that all sites should be selected from within one state to ensure maximum comparability among the experimental communities. Selecting sites from within one state controls for prevailing DWI laws, department of motor vehicles procedures, judicial policies, and to a large extent, public attitudes about drinking and driving and awareness of DWI counter-measures. Further, it was found that California, containing 36 cities with populations between 100,000 and 200,000, was the only state that offered a sufficient number of communities of the established size from which to choose. Texas, with 12 cities within the criterion population range, was the only alternative, but several of the cities are located adjacent to each other, and others are dominated by the four, large metropolitan cities of Texas.⁴

SELECTED SITES

A report was prepared that summarized the relevant characteristics of the candidate sites. Only eight candidate communities satisfied the full set of site-selection criteria, from among the 36 communities within the population range in California. In particular, sites were selected from the candidate communities by comparing demographic characteristics and DWI statistics, such as the rate of alcohol-involved injury crashes per 100,000 residents and the proportion of all injury crashes that involved alcohol.

DEVELOPED EVALUATION PLAN

The plan developed to evaluate program effectiveness focused on two sets of dependent variables: 1) Administrative aspects, and 2) Impacts. Table 1 summarizes the dependent measures and associated sources of data that were included in the Program Evaluation Plan.

Most of the program evaluation measures are relatively simple and self-explanatory. For example, all measures of administrative aspects of the experimental programs could be gathered from the records maintained by the participating law enforcement agencies and from a state wide traffic records system. Three of the measures of impact would be similarly obtained. Estimates of the costs of DWI crashes can be calculated on the basis of economic models developed in the insurance industry and by state law enforcement specialists; it was suggested that cost savings resulting from any measured declines in DWI-crashes that are attributed to the programs could be similarly calculated. In this regard, it is possible that a single avoided crash could be perceived as economic justification for considerable special DWI enforcement effort.

The last four measures listed in Table 1 require further discussion. These are the measures of public awareness of the special enforcement programs, public perceptions of risk of detection and apprehension for driving while impaired, and self-reports of drinking and driving behavior. As described in the Introduction to this report, the hypothesis inherent in the theory of general deterrence suggests that as measures of public awareness increase during the course of a special enforcement program, perceptions of risk of detection are also likely to increase. As perceptions of risk increase, there will be,

according to the theory, a corresponding increase in self-reports of modified DWI behavior and decreases in DWI arrests made and alcohol-involved crashes occurring in a program community.

TABLE 1
 SUMMARY OF PROGRAM EVALUATION PLAN

Administrative Measures	Data Source
Labor costs	Participating police departments
Equipment costs	Participating police departments
Number of vehicles stopped	Participating police departments
Acceptance by police personnel	Post-checkpoint debriefings of officers
Measures of Impact	Data Source
Number of DWI crashes	Participating PDs and SWITRS
Estimated costs of DWI crashes	Econometric projection
Estimated savings from prevented crashes	Econometric projection
Number of DWI arrests at checkpoints	Participating police departments
Number of DWI arrests (other means)	Participating police departments
Number of DWI convictions	Local courts/District Attorneys' Offices
Ratings of awareness of programs	Survey conducted by DMV offices
Ratings of perceived risk of detection	Survey conducted by DMV offices
Ratings of perceived risk of arrest	Survey conducted by DMV offices
Self-reports of DWI driving incidence	Survey conducted by DMV offices

The project team enlisted the cooperation of the California Department of Motor Vehicles (DMV) in collecting the survey data. In this approach, DMV personnel provided a one-page questionnaire to each applicant for a driver's license or license renewal (California drivers are required to report to DMV offices every seven years for license renewal); the applicant was asked to complete the brief questionnaire while waiting for his or her license application to be processed. The survey instrument contained questions concerning age, gender, driving experience, residence, and other relevant information, and key questions about awareness of the special enforcement programs and risks of DWI detection and arrest. Questions were also asked about the *sources* of subjects' personal awareness and perceived risk. The questionnaires used in the six communities were identical except for references to the community name and the local program (four communities with sobriety checkpoint programs, one with special roving patrols that focus on DWI enforcement, and routine DWI enforcement in the comparison community). Both English and Spanish language versions of the questionnaires were developed. Examples of the questionnaires used during the study are provided as Appendix B.

DEVELOPED IMPLEMENTATION PLAN

A detailed Implementation Plan was developed by the project team to guide the conduct of the field study. The plan included the research design illustrated in Figure 3, the specific procedures to be followed by each of the participating police departments, data collection requirements, a discussion of how the project team planned to organize traffic safety program support committees in the experimental communities, and specific publicity objectives for the program support committees.

As shown by Figure 3, Programs 1 through 4 were planned as sobriety checkpoint programs. Each of the four checkpoint configurations was unique, varying principally in staffing level and mobility. High staffing level was defined as a checkpoint conducted by six to 12 personnel (the traditional approach to sobriety checkpoint staffing in most regions of the US is to use at least ten officers); low staffing level checkpoints would be conducted by three to five personnel (an approach pioneered by innovative officers from smaller departments that could not afford the traditional method of operating checkpoints with large numbers of personnel).⁵

	PROGRAM 1	PROGRAM 2	PROGRAM 3	PROGRAM 4
STAFFING LEVEL	High <i>6-12 Personnel</i>	High <i>6-12 Personnel</i>	Low <i>3-5 Personnel</i>	Low <i>3-5 Personnel</i>
MOBILITY	Low <i>Same Location all Night</i>	High <i>3 Locations Per Night</i>	High <i>3 Locations Per Night</i>	Low <i>Same Location all Night</i>
NUMBER OF LOCATIONS	Fewer	More	More	Fewer
LOCATION CRITERION	High DWI/Crash Incidence	High DWI/Crash Incidence	High DWI/Crash Incidence	High Visibility

PROGRAM 5 Special Roving DWI Patrols	SITE 6 Comparison Site (No Program)
--	---

Figure 3. Summary of the research design.

The checkpoint configurations also varied in terms of their mobility. In the two low mobility programs the checkpoint would remain in the same location for the four-hour period between 1030 and 0230 hours of the next morning (again, the more familiar

approach). High mobility checkpoints, however, would be set-up then moved twice during the four-hour deployment period; the high mobility checkpoints were in operation for a total of one hour in each location, with 30 minutes allotted for moving all personnel and equipment to the next location.

An objective of the study was to determine if differential staffing levels or checkpoint mobility resulted in differences in program impact. In this regard, staffing level might influence the ability of the officers to process all vehicles contacted, which in turn might influence motorists' perceived risk of arrest if they came upon a checkpoint but were instructed to drive through without being stopped. Similarly, it was reasoned that whether a checkpoint was located at only one location or at three sequential locations in a night might affect the perceived risk of arrest for motorists who drink and drive. In addition, the criteria used by the police to identify appropriate locations for the checkpoints within their communities was of interest to NHTSA. Imposing different location criteria as a true experimental variable would have confounded study results.⁶

According to the research design summarized in Figure 3, Program 5 did not involve checkpoints at all. Rather, the police department recruited for this role conducted a program of aggressive roving patrols that focused on DWI enforcement. A sixth site, selected to serve as a comparison community, was included in the design; the managers of that department promised to refrain from any special DWI enforcement effort or publicity about DWI countermeasures for the duration of the nine-month program. Additional details about the programs are provided in subsequent sections of this chapter.

RECRUITED POLICE DEPARTMENTS

The project director began the recruitment process upon approval of the candidate sites by the government's COTR. Letters describing the project and inviting the department's participation were composed and sent to the chiefs of the selected police departments, many telephone conversations were held with police managers, and site visits were made to discuss project requirements. In addition, the project director was required to appear before city councils to explain the study and the procedures that would be implemented in their communities if the councils agreed to permit their local police departments to participate.

All six of the communities selected for participation in the study were successfully recruited, despite some local concerns about possible negative reactions from residents and business owners to aggressive DWI enforcement programs. The special enforcement and data collection obligations of the departments were specified in letters of agreement signed by the project director and the chiefs of the six participating police departments. The participating departments and their roles in the study are presented in Table 2; the geographic distribution of the sites within the State of California is illustrated in Figure 4.

TABLE 2
SITE-SELECTION AND RECRUITMENT SUMMARY

Program/Site Number	City	Program Description
1	Modesto	High Staffing/Low Mobility
2	Santa Rosa	High Staffing/High Mobility
3	Ventura	Low Staffing/High Mobility
4	Visalia	Low Staffing/Low Mobility
5	Ontario	Special Roving DWI Patrols
6	Santa Barbara	Comparison Site (no program)

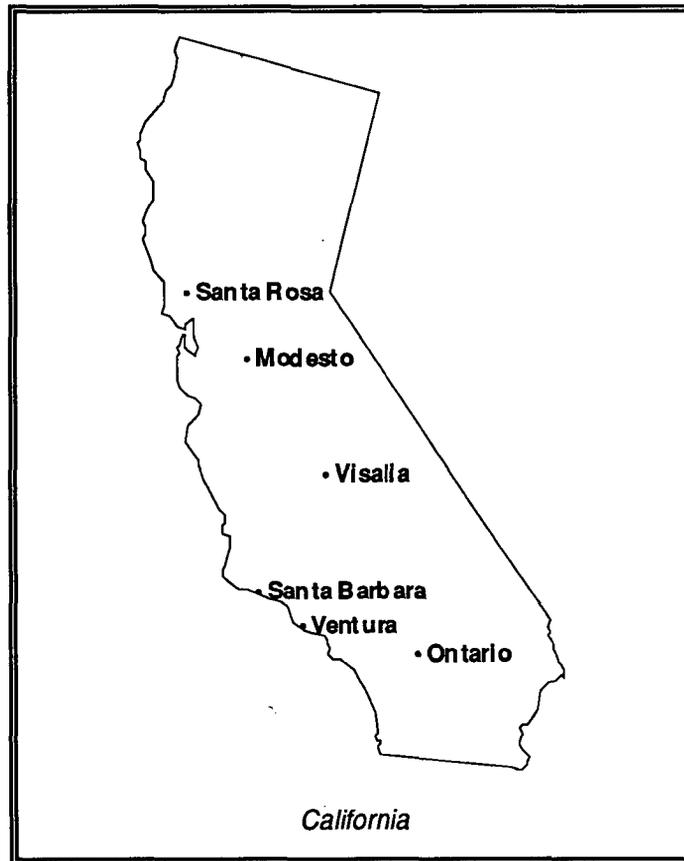


Figure 4. Geographic distribution of sites.

ORGANIZED PROGRAM SUPPORT COMMITTEES

During the time that the police departments were being recruited, the project team began identifying individuals who might be invited to participate as members of the five program support committees. The team focused on community leaders, local traffic safety experts, medical professionals, and citizens who had previously demonstrated an interest in traffic safety issues. Letters of invitation were composed and sent to the people identified as appropriate candidates in each of the five experimental communities. All of those invited subsequently received personal telephone calls to further explain the purpose of the committees and the types of activities for which the committees would be responsible.

The project team organized a program support committee in each of the five experimental communities. The committees consisted of as many as 20 individuals, with core groups of six to ten highly-motivated and active members. The committees were encouraged to develop names and logos for their new organizations. It was believed that locally-developed names and logos would contribute to a sense of local "ownership" and provide continuity to the publicity materials and messages that would be developed and implemented during the nine-month general deterrence programs.

IMPLEMENTED PROGRAMS

The general deterrence programs implemented in the five experimental communities were composed of two elements: 1) special enforcement, and 2) publicity. These elements are described separately in the following sections, although they formed a unified general deterrence program in each of the communities.

SPECIAL ENFORCEMENT

All five of the experimental programs were initiated during the first week of August 1992 and continued through the end of April 1993. It was necessary to implement and conduct the programs simultaneously to permit comparisons among the programs; that is, DWI activity is influenced by the seasons and holidays and these influences would have confounded attempts to evaluate main effects if the programs were not contemporaneous. The following paragraphs summarize the checkpoint and roving patrol enforcement efforts.

SOBRIETY CHECKPOINTS

Eighteen checkpoint nights were conducted by each of the four police departments that conducted checkpoint programs. The two high-staffing level programs were permitted by the research design to use between six and 12 officers; of the two departments Modesto deployed 12 officers and Santa Rosa deployed seven. The two low-staffing level programs were permitted by the design to use between three and five officers; of the two departments Visalia deployed five officers and Ventura deployed four. The checkpoints were also attended by between two and ten program support committee members, MADD volunteers, Police Explorer Scouts, news media personnel, and

other interested parties. In some communities, the civilian volunteers helped with setting up the checkpoint equipment and maintaining the required log of motorist contacts; in other programs, the civilians' checkpoint activities were limited to providing refreshments and moral support.

The project director approached the California Office of Traffic Safety (OTS) with a special request for assistance. In response, OTS provided each of the four checkpoint communities with a grant to purchase special trailers, generators, lights, cones, signs, and associated equipment necessary to conduct sobriety checkpoints. Most law enforcement agencies that conduct an occasional checkpoint must borrow their equipment from state or municipal road maintenance departments, and transport the equipment in a borrowed truck. It was determined that the only way to conduct a program of frequent checkpoints is for a police department to have equipment dedicated to that purpose. In this regard, the generous response by OTS managers greatly facilitated the conduct of the checkpoint programs and this research project.⁷

The procedures followed in the four checkpoint programs are summarized in the following paragraphs.

- The experimental programs were nine months in duration. Eighteen checkpoint nights were conducted in each of the four checkpoint communities.
- Program 1: The Modesto Police Department conducted checkpoints using a crew of 12 sworn officers; the checkpoints remained in the same location throughout the checkpoint night.
- Program 2: The Santa Rosa Police Department conducted checkpoints using a crew of seven sworn officers; the checkpoints were moved, requiring set-ups at three separate locations each checkpoint night.
- Program 3: The Ventura Police Department conducted checkpoints using a crew of four sworn officers (the lowest staffing level in the study); the checkpoints were moved, requiring set-ups at three separate locations each checkpoint night.
- Program 4: The Visalia Police Department conducted checkpoints using a crew of five sworn officers; the checkpoints remained in the same location throughout the checkpoint night.
- The departments that moved their checkpoints during a checkpoint night (i.e., the two high mobility sites) had pre-selected and surveyed nine checkpoint locations within their jurisdictions. Checkpoint geometries and all equipment locations and FST areas were marked with paint or surveyors' nails to facilitate checkpoint set-up. The DWI coordinators of these departments (i.e., the traffic

sergeants) randomly selected three checkpoint locations and three alternate locations from the nine surveyed locations, prior to each checkpoint night.

- The departments that conducted stationary checkpoints (i.e., the low mobility sites) had pre-selected and surveyed five checkpoint locations within their jurisdictions. Checkpoint geometries and all equipment locations and FST areas were marked with paint or surveyors' nails to facilitate checkpoint set-up. The DWI coordinators of these departments randomly selected one checkpoint location and one alternate location from the surveyed locations, prior to each checkpoint night.
- As required by the courts, all of the departments announced their impending checkpoints in the week prior to each checkpoint night. Announcements were made by standardized press releases indicating that a checkpoint or checkpoints would be conducted somewhere within the city limits during the coming weekend. Low mobility sites announced their one primary and one alternate locations. High mobility sites announced their three primary and three alternate locations.
- The officer in charge (OIC) of each checkpoint conducted a pre-deployment safety and procedural briefings for all checkpoint participants. The briefing guidelines conformed to those suggested in *The Use of Sobriety Checkpoints for Impaired Driving Enforcement* (DOT-HS-807-656, 1990).
- Initially, all four of the departments deployed to their pre-selected locations in time to implement their first (or only) checkpoint by 2230 hours. The Santa Rosa Police Department, however, experimented with earlier deployments when the number of DWI arrests declined later in the study.
- Departments that conducted stationary checkpoints remained in operation at their primary location until 0230 hours of the next morning (a total of *four* checkpoint hours).
- Departments that moved their checkpoints operated at their first location from 2230 hours to 2330 hours; at their second location from 0000 hours (midnight) to 0100 hours; and, at their third location from 0130 to 0230 hours (a total of *three* checkpoint hours with 30 minutes between set-ups).
- All four checkpoint programs employed a systematic, non-random, schedule for motorist contacts that correlated the crews' capacity for contacts with the measured traffic flow at the various locations. For example, a crew might find it possible to contact every motorist at a low-traffic volume location, but at a high-traffic location the crew might find it necessary to contact every third, fifth, or seventh vehicle. As expected, it became necessary to periodically shut down

the checkpoint lane in low staffing level checkpoints for workload and safety-related reason, particularly when FSTs were being conducted and suspects transported. Changes to the contact schedule could only be authorized or ordered by the OIC based on the periodic timing of traffic delays conducted by the person maintaining the contact log. Typically, if motorists were delayed for more than a minute the OIC would switch to a schedule of contacting every third vehicle, then every sixth vehicle if further delays were incurred. The alternate schedules and procedures for switching to alternate schedules were included in the administrative orders that authorized a department's checkpoints. Note: The reason that only the OIC can authorize a schedule change is to remove the possibility of a contact officer deciding who to stop on the basis of driver appearance, vehicle style, or some other non-random strategy.

- All four departments maintained vehicle and motorist contact counts for all checkpoint locations and checkpoint nights. Each vehicle was assigned a sequential number, and those vehicles whose drivers were administered FSTs or arrested were specially coded; this permitted the reconstruction of each checkpoint for later analysis (like a box score), and to support court testimony, if necessary. Civilian volunteers and police reservists usually maintained the contact record.
- All departments followed the same contact protocol: The contact officer politely greeted and informed the motorist that he or she had entered a sobriety checkpoint. Following the initial response the motorist was asked whether he or she had ingested any substance that might impair his or her driving performance. If the motorist's response was to the satisfaction of the officer (no detectable impairment or alcohol on the breath), the motorist was thanked for his or her cooperation, sometimes handed a brochure about the program, and advised to drive safely.
- If the motorist's response provided suspicion of impairment, the motorist was asked for his or her driver's license, and further inquiries were made. Upon sufficient suspicion, a motorist would be required to perform the battery of Standard Field Sobriety Tests (SFSTs) to obtain a more formal evaluation of impairment. Only sworn officers who had received formal training in the administration of the SFST battery were permitted to formally evaluate motorists' impairment. Motorists who did not pass the FSTs were arrested and transported to jail for evidential testing of blood alcohol concentration. In some instances, police reservists were used for transporting arrested motorists.
- Workloads under certain conditions occasionally required that a crew temporarily close the checkpoint lane to attend to other matters (e.g., FSTs, transportation, etc.). Temporary closures of a checkpoint lane were ordered at the discretion of the OIC.

- The OIC of all participating departments conducted a post-checkpoint debriefing at the completion of each checkpoint night to obtain feedback from participants concerning the evenings events (e.g., safety or procedural issues, suggestions, etc.).

SPECIAL ROVING PATROLS

The Ontario Police Department, which conducted the roving patrol program, deployed two officers in a specially-marked patrol car on Thursday, Friday, and Saturday nights, approximately every other week; the two roving patrol officers worked six-hour shifts for three nights on alternate weeks for the nine-month duration of the program, for a total of 648 patrol hours. The 648 hours of roving patrol officer time was determined by calculating the number of hours required to conduct eighteen checkpoints with a complement of six officers; six officers represents the low end of the high-staffing level range for checkpoints. The special enforcement activities were scheduled in both the roving patrol and checkpoint communities in response to holidays and local events. For this reason, communities occasionally conducted their checkpoints or special patrols on successive weekends, while at other times two weeks might elapse without the special enforcement effort in a community. On average, however, checkpoints were conducted twice each month in the checkpoint communities and special patrols were deployed on six nights each month in the roving patrol community.

The procedures followed by the special roving patrol officers were very simple: their mission was to concentrate their efforts on the detection and processing of DWI motorists. Accordingly, the deployed units would patrol areas of the City of Ontario in which DWI arrests and crashes had occurred previously. Patrol strategies included cruising a circuit of hazardous areas and drinking locations, scrutinizing the faces of oncoming drivers for the signs of alcohol-impairment, and looking for other established DWI detection cues (Harris, Dick and Jarosz, 1980; Stuster, 1993). In addition to their own search activities the special patrols responded to traffic collisions in the community to determine if alcohol was involved. They would also occasionally respond, along with other patrol units, to complaints about loud or wild parties; these responses were more to evaluate the driving of those leaving the party than to assist with noise control.

The roving patrol officers were deployed at 2100 hours and relieved at 0300 hours the next morning; usually between three and four hours were spent on patrol each night, while the remaining two to three hours were required to complete the paperwork and other processing tasks associated with the DWI arrests. The Ontario Police Department had previously conducted a similar program of roving patrols and the participating officers were both skilled and motivated in DWI detection.

The roving patrols focused on DUI enforcement, but were permitted to conduct their activity throughout the city. No more than one special roving patrol vehicle was deployed at a time. These roving DUI patrols are distinguished from "saturation patrols," which might focus on enforcement of DUI or other infractions, are geographically limited in scope, and usually are conducted by several officers at a time.

PUBLICITY

The five program support committees (PSCs) were organized in June of 1992. The committees' objectives are summarized in the following statement of purpose; this statement was modified with the name of the local community and program and, therefore, served as a uniform guide to all of the committees.

The Traffic Safety Program Support Committee is responsible for creating a nine-month long campaign to publicize the special DWI-deterrence efforts in the community. The committee will inform the public of the special enforcement program, the purpose of the enforcement, and in general, the hazards of drinking and driving. Committee activities will include, 1) conducting press conferences and related media events, 2) creating, producing and airing public service announcements (PSAs), 3) promoting police DWI-deterrence efforts at special events, 4) arranging tie-ins with other related DWI deterrence programs and activities, and in other ways supporting efforts to improve traffic safety in the community and surrounding areas. The committee will recruit volunteers and pool resources needed to conduct these activities. In addition, the committee will work closely with local media to ensure adequate coverage of its activities.

The PSCs met frequently during the first two months, selecting names for the committees and enforcement programs, developing logos, recruiting additional members, and selecting leaders. However, the primary task during the first two months was the organization of kick-off press conferences and preparation of press kits. The press kits contained information about the local enforcement program and the program support committee, general information about the drinking and driving problem, and DWI statistics for the community and state. The materials were enclosed in folders bearing the logo of the local committee, as might be expected of a professionally produced press kit.

Although organized and conducted by volunteers, all five of the kick-off press conferences were highly successful, as measured by the quality of the presentations, the numbers of distinguished guests, and most important, by the news coverage generated by the events. News coverage--free publicity--is the only reason a press conference is held; all five of the kick-off press conferences were reported on local television and radio stations and in local newspapers.

Two of the press conferences were conducted in city council chambers, one at a park, one at a shopping mall, and one at a location known for DWI crashes. Each location was selected for specific reasons: the council chambers were convenient and the customary locations for police department press conferences in those cities; the parking lots of the mall and city park provided opportunities to set up the equipment and conduct mock checkpoints for the press; and, the crash site location was selected to clearly link the enforcement program to its ultimate objective, the deterrence of drinking and driving. Appendix C provides a summary of the five kick-off press conferences. All of the press conferences were successful, but the conference at the crash site was particularly effective and could serve as a model for press conferences conducted to announce other general deterrence programs. A description of this exemplary press conference is also provided in Appendix C.

Appendix D includes some of the newspaper articles generated by the kick-off press conferences and subsequent activities of the program support committees. Those activities included the full range of publicity efforts that can be developed in support of a general deterrence program in the absence of a special funding source. In this regard, it was NHTSA's position that the publicity programs should not receive special funding from NHTSA because special funding cannot be expected by communities that might be interested in implementing deterrence programs based on study results. For this reason, no more than \$500 of contract funds were provided to any of the program support committees to pay for publicity materials. Except for these token amounts, all publicity activities and materials were paid for by locally donated resources.

A partial list of publicity activities implemented by the program support committees is presented in Table 3. Appendix E provides examples of some of the items developed for the publicity programs, and Appendix F provides a comprehensive inventory of the committees' activities. These items are included in this report both to document the research project and to emphasize the considerable level of effort devoted to the publicity programs by all participants in the study.⁸

The publicity programs developed and implemented by the five committees were based on the same set of target objectives specified in the Implementation Plan. However, the nature of committee work and different local opportunities resulted in five separate publicity programs. Although the programs varied somewhat in content and emphasis, they were comparable in their overall levels of effort. For example, all of the committees developed and distributed posters (except for Santa Rosa), brochures, and Lifesaver coupons; materials were distributed to bars, restaurants, auto parts stores, and major employers, to name a few strategies. Also, all of the committees issued press releases, participated with police personnel in talk shows broadcast on local cable television channels, and all developed PSAs for radio and television. The project team is particularly proud of a PSA developed by the Visalia committee (known as FOCUS on Sober Driving) that won an advertising council award for excellence in televised PSAs.

In addition to the core publicity elements and materials common to all of the committees, each committee developed at least one special approach that was unique to the local program (e.g., billboards, simulated crashes as media events, poster contest in the schools, checkpoint trailer used in parades and at special events, resolutions and proclamations by the legislature, etc.).

MONITORED ENFORCEMENT AND PUBLICITY PROGRAMS

The project staff participated as facilitators to the program support committees, attending committee meetings regularly during the first few months and then again as the programs were nearing completion. Project staff remained in close contact with committee leaders and police liaison personnel from the time that the departments were recruited and the committees formed until the month following completion of the field portion of the study (i.e., a period of eleven months). The site director for each

community also subscribed to local newspapers, reviewing the papers on a daily basis to remain informed of primary news coverage of the enforcement and publicity programs during the study period. The site directors' responsibility, in this regard, was to maintain a high level of motivation and publicity activity in the committees.

TABLE 3
PARTIAL LIST OF PUBLICITY ACTIVITIES
IMPLEMENTED BY THE FIVE PROGRAM SUPPORT COMMITTEES

- Billboards
- Brochures (distributed with DMV and city water bills, and by police and volunteers)
- Checkpoint trailers used in parades and at special events
- Display advertising in newspapers
- Displays at county fairs and local festivals
- Displays at local colleges
- Displays at special events
- Displays in supermarkets (posters and brochures liquor departments)
- Electronic display message boards (at rodeo center along major highway)
- Interviews with police and committee personnel on radio and television programs (frequently)
- Lifesaver coupons (a particularly effective item that was quickly adopted by the other committees)
- Media tie-ins and media events (e.g., mock crashes, crashed car display, etc.)
- News articles about the programs
- Posters (distributed to restaurants, liquor stores, auto parts stores, major employers, etc.)
- Presentations at alcohol services meetings
- Presentations at high schools, detention centers, and civic group meetings
- Press releases, ride-alongs, and other special opportunities for reporters
- Public service announcements on radio
- Public service announcements on television
- Resolutions and proclamations by the state legislature
- Restaurant table "tents" with program message
- Speakers bureaus
- Specially prepared articles published in newspapers, newsletters, and bulletins
- Student poster contest
- Supermarket drop-ins (brochures dropped in shopping bags)
- Supermarket shopping bags with program message
- Tie-in with designated driver programs
- Tie-ins with responsible host programs

In short, the project team monitored the publicity programs closely during the nine-month field study, frequently encouraging committee members to increase their efforts when a program was believed to be lagging behind the others. The project team used this subjective process to ensure that the overall level of publicity effort remained about the same in the five communities, despite local differences in opportunities, materials, and emphases.

COLLECTED DATA

Data concerning enforcement activity and traffic collisions were provided to the study team by the participating police departments on a monthly basis. Data were also obtained from a state traffic data analysis system. The California Highway Patrol administers the Statewide Integrated Traffic Data Records System (SWITRS), which collects and integrates data from all municipalities and unincorporated areas of the state. On several occasions, SWITRS managers and analysts generously responded to requests for special "runs" of data necessary during the site-selection process and later in the project to perform statistical analyses of program effects.

Completed DMV survey forms (measuring public awareness of the local program and perceived risk of detection if DWI, etc.) were sent by the DMV liaison personnel to the site directors twice each month. Site directors remained in contact with the DMV personnel to ensure that the offices had sufficient numbers of Spanish and English language forms on hand, and to remind the DMV personnel of their important role in the study.

ENTERED AND ANALYZED DATA/PREPARED FINAL REPORT

All data were received and entered into spreadsheet and statistical programs at the offices of Anacapa Sciences, Inc. Analyses were performed using established techniques and methods; the results of those analyses are presented in the following chapter. Project staff were assisted in the statistical analyses by Dr. Richard McCleary. The final task of the project was the preparation of this report.

CHAPTER 3: RESULTS

The study documented in this report was conducted to determine if sobriety checkpoint programs that vary in terms of staffing level and mobility have differential effects.

The following presentation of study results is organized in terms of the two primary sources of data used to evaluate and compare the programs: survey data and measures of traffic safety. Before proceeding, however, it is important to note that the many statistical tests mentioned in this chapter were conducted to determine if changes in frequencies, or differences in data, are attributable to the experimental conditions or are simply the results of random variation. An objective of the analyses has been to minimize the possibility of claiming there is a difference when, in fact, the difference might have been caused by chance. But, it is the nature of traffic safety statistics that even small changes can have big impacts, due to the large numbers of motorists whose behavior might be affected by a program. In other words, it might be unwise to set a probability level so high that a potentially valuable main effect might be missed, that is, attributed to chance because it did not achieve the established level of significance.

For these reasons, it is important to select a level of statistical significance that provides a high probability of being correct when attributing an effect to an experimental condition. It is equally important that project results not be evaluated exclusively on the basis of attaining a somewhat arbitrary level of statistical significance. For purposes of this analysis, the 0.05 level is accepted as statistically significant; that is, the probability of error for all statistically significant results will be equal to or less than one chance out of twenty. But it will also be indicated in this chapter when a change or difference approaches statistical significance. Actual probabilities will be provided in the text to permit readers of this report to better judge the merits of the experimental programs, the evaluation of administrative factors, and the implications of study results presented later.

RESULTS OF THE DMV SURVEY

The public awareness and perceived risk survey was administered by California Department of Motor Vehicles (DMV) personnel to all persons who visited one of the participating DMV offices regarding a driver's license matter (e.g., new or lost license, change of address, expiration, driver's test, etc.). The survey began in June of 1992, two months before implementation of the special enforcement programs. All of the DMV offices were located within the city limits of the participating communities, with the exception of Ontario. The DMV office that serves Ontario is located in near-by Rancho Cucamonga; in addition to Ontario, the Rancho Cucamonga office serves several surrounding communities. Because residents are permitted to conduct their business at any DMV office in the state, the questionnaires requested that subjects indicate the city in which they live. Only forms completed by residents of the six participating communities were entered and analyzed.

More than 18,000 survey forms were received and processed by Anacapa Sciences, Inc., resulting in approximately 13,300 completed forms for data entry and analysis. On average, 200 acceptable forms were returned per site each month of the eleven month period (i.e., about 2,200 completed survey forms from each experimental and comparison site). About fifty-six percent of the forms entered were completed by males in all six of the communities; this number reflects the ratio of male to female drivers in California. Also, fewer than ten percent of the respondents were in the age category below the legal drinking age (i.e., 16 to 20 years old). Further, the age and driving experience distributions of those completing the survey were within the ranges expected on the basis of state wide distributions. The following paragraphs and figures summarize the results of key survey questions.

PUBLIC AWARENESS OF THE EXPERIMENTAL PROGRAMS

The primary measures of public awareness of the experimental programs were provided by responses to questions five, six, and seven on the DMV survey. Figure 5 summarizes the results of these questions.

Question 5 of the survey asked whether the respondents from the four checkpoint sites had **ever heard** of sobriety checkpoints in their communities; respondents from the roving patrol site were asked if they had ever heard of special DWI patrols in their community; and respondents from the comparison site were asked if they had ever heard of general DWI enforcement in their community. Figure 5a shows that awareness of the four sobriety checkpoint programs increased during the field study from an average of 63 percent in June, two months before the study began, to an average of 81 percent in April, the last month of the experimental programs. Awareness of the roving patrol program increased from 15 percent in June to 29 percent in April, while awareness of general DWI enforcement in the comparison community declined more than two percentage points during the same period. Table 4 provides a summary of the change in awareness from the first baseline month to the last month of the programs (i.e., the final month, representing the most "mature" versions of the five general deterrence programs).

The "before and after" data presented in Table 4 were not subjected to tests of statistical significance. However, a Randomization Test, a type of exact significance test (Kratochwill and Levin, 1992), was performed on the 11-month series of survey responses illustrated in Figure 5a. The Randomization Test involves comparisons of the baseline months to all nine months of the program, rather than just to the final month; thus, statistical significance is derived by this method from the consistency of a trend over time, rather than basing conclusions about a change on only two data points (from before and after the programs). The results of the Randomization Test indicated that public awareness of the roving patrol program and three of the sobriety checkpoint programs increased significantly ($p \leq 0.04$), while awareness of the checkpoint program in Visalia approached significance ($p=0.055$). The comparison community experienced no statistically significant change in awareness of general DWI enforcement.

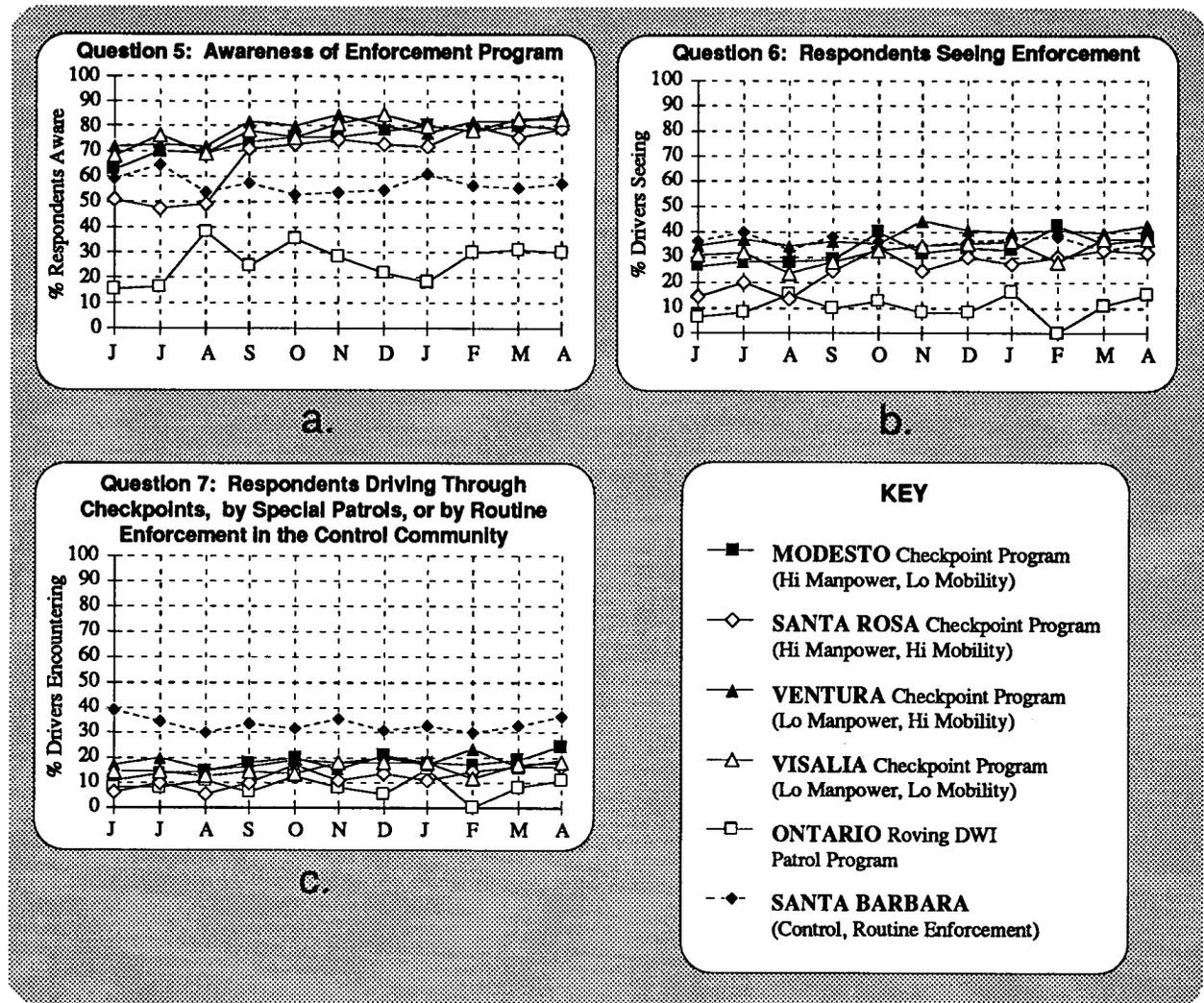


Figure 5. Summary of responses to Question 5, 6, and 7.

Figure 5a shows that at least 50 percent of all respondents in checkpoint communities reported hearing about checkpoints in their communities before the experimental programs had been implemented. Although three of the checkpoint communities had participated in an occasional CHP-sponsored checkpoint in previous years, none had conducted a program of checkpoints, none had participated in a CHP checkpoint recently, and there had *never* been a sobriety checkpoint in the City of Santa Rosa. Despite these facts, at least half of those surveyed reported awareness of non-existent checkpoint programs in their communities. Conversely, only about 15 percent of the respondents in Ontario reported awareness of special DWI patrols before program implementation; this is particularly interesting because the Ontario Police Department had concluded a roving patrol program within the previous year, and had conducted a similar program several years earlier. Awareness of general DWI enforcement in the

comparison community remained relatively flat throughout the study. These results clearly indicate that sobriety checkpoints are more noteworthy and memorable to most people than either special roving patrols or routine DWI enforcement.

TABLE 4
 QUESTION 5: SUMMARY OF RESULTS

"Before this survey, had you ever heard of sobriety checkpoints in Modesto?"
 (same for Santa Rosa, Ventura, and Visalia)
 "Before this survey, had you ever heard of Special DWI Patrols in Ontario?"
 "Before this survey, had you ever heard of DWI enforcement in Santa Barbara?"

Program/ Site No.	City	Program Description	Percentage		Percent Change
			June 1992	April 1993	
1	Modesto	High Staffing/Low Mobility	62.44	78.48	+26
2	Santa Rosa	High Staffing/High Mobility	50.55	78.88	+56
3	Ventura	Low Staffing/High Mobility	71.69	83.76	+17
4	Visalia	Low Staffing/Low Mobility	67.39	82.08	+22
5	Ontario	Special Roving DWI Patrols	15.38	29.23	+90
6	Santa Barbara	Comparison Site (no program)	59.12	56.79	- 4

Question 6 asked whether the respondents from the four checkpoint sites had ever seen a sobriety checkpoint in their communities; respondents from the roving patrol site were asked if they had ever seen a special DWI patrol in their community; and, respondents from the comparison site were asked if they had ever seen general DWI enforcement in their community. Figure 5b shows that personal observation of the four sobriety checkpoint programs increased during the field study from an average of 26 percent in June, two months before the study began, to an average of 37 percent in April, the last month of the experimental programs. Personal observation of a roving patrol increased from six percent in June to 15 percent in April, while personal observation of general DWI enforcement in the comparison community declined less than one percent during the same period. Table 5 provides a summary of the changes in personal observation of the programs from the first baseline month to the last month of the programs (i.e., the final month, during which respondents could draw upon their personal observations from the full nine-months of the general deterrence programs).

The "before and after" data presented in Table 5 were not subjected to tests of statistical significance. However, a Randomization Test was performed on the full series of data illustrated by Figure 5b. The results of this test indicated that personal observations of an experimental program increased significantly only in Modesto ($p=0.02$), while personal observation of the checkpoint program in Santa Rosa approached significance

($p=0.055$). Personal observation of the remaining experimental programs increased during the field study for Ventura, Visalia, and Ontario, as illustrated in Figure 5b and reported anecdotally in Table 5. But when the full series of data were subjected to the Randomization Test these increases were insufficiently consistent to achieve a statistically significant effect. The comparison community experienced a trivial and statistically insignificant change in personal observation of general DWI enforcement during the course of the study.

TABLE 5
QUESTION 6: SUMMARY OF RESULTS

"Have you ever seen a sobriety checkpoint in Modesto?"
(same for Santa Rosa, Ventura, and Visalia)
"Have you ever seen Special DWI Patrols in Ontario?"
"Have you ever seen DWI enforcement in Santa Barbara?"

Program/ Site No.	City	Program Description	Percentage		Percent Change
			June 1992	April 1993	
1	Modesto	High Staffing/Low Mobility	26.04	37.31	+43
2	Santa Rosa	High Staffing/High Mobility	14.09	31.68	+125
3	Ventura	Low Staffing/High Mobility	34.56	42.37	+23
4	Visalia	Low Staffing/Low Mobility	30.70	36.99	+21
5	Ontario	Special Roving DWI Patrols	6.15	15.38	+150
6	Santa Barbara	Comparison Site (no program)	35.79	35.03	-2

Question 7 asked whether the respondents from the four checkpoint sites had ever driven through a sobriety checkpoint in their communities; respondents from the roving patrol site were asked if they had ever seen a special DWI patrol stopping a vehicle in their community; and, respondents from the comparison site were asked if they had ever seen general DWI enforcement stopping a vehicle in their community. Figure 5c shows that a personal experience with sobriety checkpoints increased during the field study from an average of 12 percent in June, two months before the study began, to an average of 19 percent in April, the last month of the experimental programs. Personal observation of a special roving patrol stopping a vehicle for DWI enforcement increased slightly from eight percent in June to 11 percent in April, while personal observation of general DWI enforcement stopping a vehicle in the comparison community declined about two percent during the same period. Table 6 provides a summary of the change in personal experience with a program from the first baseline month to the last month of the programs (i.e., the final month, during which respondents could draw upon their personal observations and experiences from the full nine-months of the general deterrence programs).

TABLE 6
 QUESTION 7: SUMMARY OF RESULTS

"Have you ever driven through a sobriety checkpoint in Modesto?"
 (same for Santa Rosa, Ventura, and Visalia)
 "Have you ever seen a Special DWI Patrol stopping a car in Ontario?"
 "Have you ever seen DWI enforcement stopping a car in Santa Barbara?"

Program/ Site No.	City	Program Description	Percentage		Percent Change
			June 1992	April 1993	
1	Modesto	High Staffing/Low Mobility	10.97	23.8	+117
2	Santa Rosa	High Staffing/High Mobility	6.09	16.15	+165
3	Ventura	Low Staffing/High Mobility	17.05	18.64	+9
4	Visalia	Low Staffing/Low Mobility	14.10	18.13	+29
5	Ontario	Special Roving DWI Patrols	7.63	10.77	+41
6	Santa Barbara	Comparison Site (no program)	38.52	36.36	- 6

Again, the "before and after" data presented in Table 6 were not subjected to tests of statistical significance. However, a Randomization Test performed on the baseline two-month period and the entire nine-month program period indicated that personal experience with an experimental program increased significantly only in Modesto ($p=0.02$), and approached significance in Santa Rosa ($p=0.09$). Personal experience with the remaining experimental programs increased during the field study but failed the tests of significance. The comparison community experienced a slight, but insignificant decline in personal observations of general DWI enforcement stops during the course of the study.

The consistency of the increasing trend in personal observation of and experience with the Modesto sobriety checkpoint program, compared to all other programs, is probably attributable to special local conditions. In particular, Modesto is well known for its "car culture," in which young people spend a disproportionate amount of time driving around town in their vehicles. Although the Modesto cruising culture documented in popular films was limited to youth, the pattern has survived despite the aging of members of this culture; that is, on any night one can find large numbers of both youthful *and* middle-aged motorists cruising the main streets of Modesto in beautifully restored cars and hot rods. This local driving pattern increases the probability that respondents to the Modesto survey would have observed or driven through one of the 18 sobriety checkpoints conducted by the Modesto Police Department during the nine-month field study. Also, a few sobriety checkpoints were conducted in neighboring communities during the study period, offering additional opportunities for Modesto residents to experience a checkpoint (and incorrectly attribute it to the Modesto program in the survey). Some of the checkpoints were strategically located to maximize their impact

on Modesto (e.g., on roads leading to Modesto from local recreational areas on holiday weekends).

Question 8 of the DMV survey was designed to obtain information about the various sources of public awareness of the DWI countermeasures. The question asked respondents to indicate how many times they had seen or heard about a program in their community on television or radio, in the newspaper, from friends, at work, or from a community organization. Figure 6 summarizes the responses to this six-part question for the control and experimental sites.

The DMV surveys were entered and tabulated on a monthly basis during the experimental programs as part of the research team's effort to monitor the public information and education activities and to assess the effectiveness of specific publicity efforts and strategies. As was the case with questions 5 through 7, baseline responses to Question 8 should have been near zero in the four checkpoint communities (because no checkpoint programs had been conducted previously). Instead, during the first baseline month at least 20 percent of respondents in the checkpoint communities reported seeing or hearing about checkpoint programs in their communities from each of the sources, with the exception of "community organization"; reported program awareness in the roving patrol community was much lower from all sources. These data are consistent with, and provide the composing elements of, the measures of general program awareness obtained through Question 5.

Randomization Tests, comparing baseline (pre-program) periods to program periods, were performed on the 11-month series of responses obtained to Question 8. The results of those tests for each of the sources of public awareness are addressed in the following paragraphs.

8a (...from television). Television as a source of program awareness had a significant effect only in Santa Rosa and Ontario ($p=0.02$). Three reasons may account for these results: 1) The kick-off press conferences in both Santa Rosa and Ontario received exceptional television news coverage (i.e., network affiliates in both communities broadcast longer than usual news segments, and both included powerful interviews with NHTSA personnel--with the COTR in Ontario, and with a Region IX representative in Santa Rosa); 2) The program support committees in both Santa Rosa and Ontario used local cable access programming and local interview programs far more than the other communities; and, 3) Both sites had relatively low baseline awareness levels (the two lowest of the six communities), providing greater opportunities for increases in awareness. The latter reason provides the most likely explanation.

8b (...from radio). Radio as a source of program awareness had a significant effect in Modesto and Santa Rosa ($p=0.02$). The comparison community also approached a significant increase in awareness from radio ($p=0.07$), due largely, it is believed, to a public service radio program hosted by a local police officer; the program included DWI enforcement discussions, particularly during the holiday period.

Question 8: Have you ever heard/seen about a DWI enforcement program (sobriety checkpoint, special roving patrols, general enforcement, depending upon site) in your community...

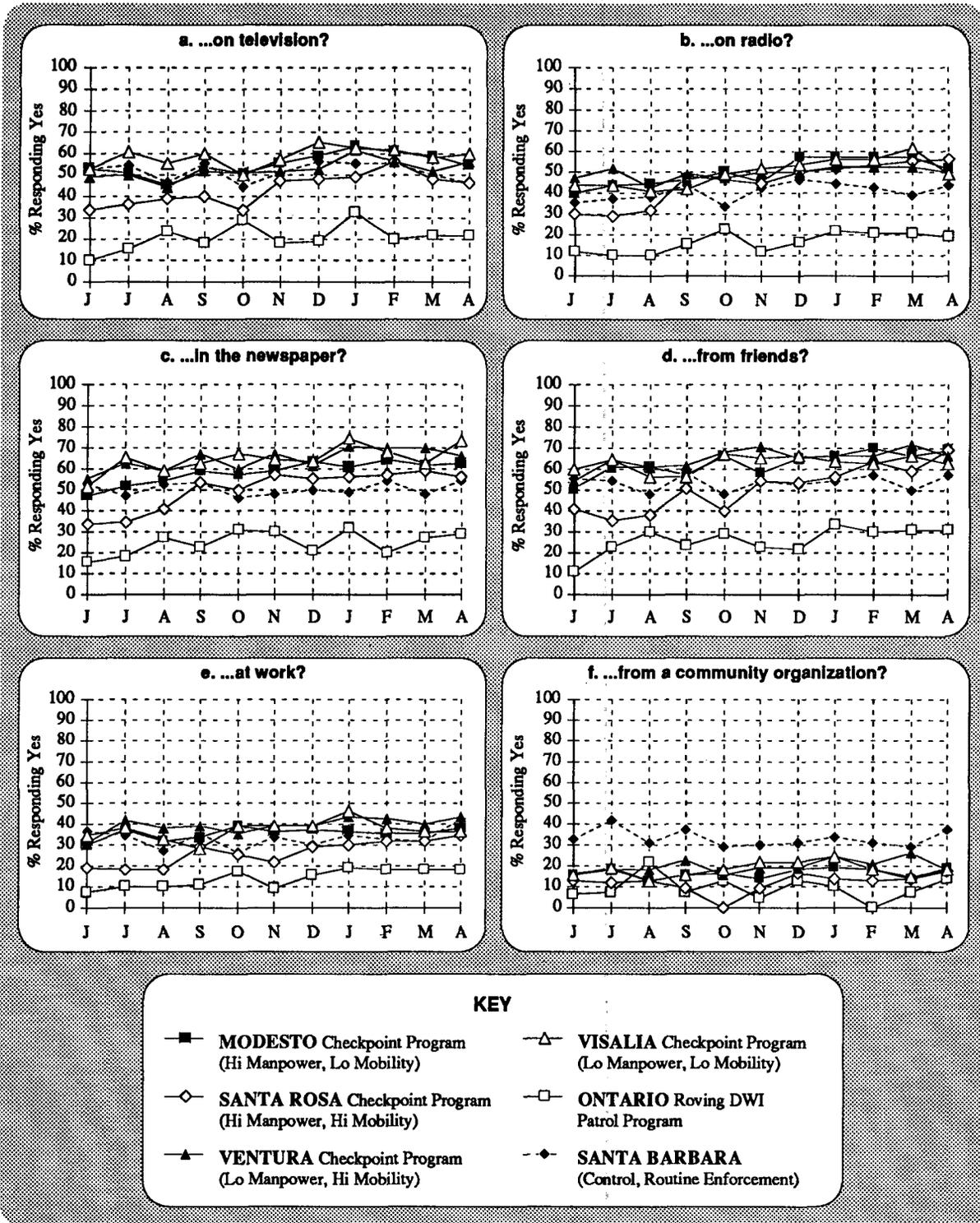


Figure 6. Summary of responses to survey Question 8.

8c (...from newspapers). Newspaper articles increased program awareness significantly in Modesto, Santa Rosa, and Ontario ($p=0.02$ in all three sites), and approached significance in Ventura ($p=0.07$) and Visalia ($p=0.10$). Awareness of general DWI enforcement was unaffected by newspaper articles in the comparison community.

8d (...from friends). No significant effects were obtained on awareness of programs from friends, but all sites approached significance ($p=0.07$ and 0.06 levels), except Visalia (0.42), and the comparison site (0.73).

8e (...at work). No significant effects were obtained on awareness of programs from messages received at work.

8f (...from community organization). No significant effects were obtained on awareness of programs from messages received from community organizations. Ventura's increase approached significance ($p=0.07$), due most likely to the Ventura committee's relatively active speakers bureau, and the many public presentations made by the Ventura PD's highly-motivated traffic sergeant.

PERCEIVED RISK OF DETECTION AND ARREST

Questions 9 and 10 of the DMV survey were designed to elicit measures of perceived risk of detection and arrest in the comparison and experimental communities. Question 9 asked, "If alcohol were affecting your driving, what are the chances that you would be *stopped* by a law enforcement officer?" Question 10 asked, "If alcohol were affecting your driving, what are the chances that you would be *arrested* if you were stopped by a law enforcement officer?" Respondents were offered the options: 1 out of 10, 2 out of 10, and so on, up to 10 out of 10. The responses to these two questions are presented in Figure 7; the mean values may be considered as probabilities of detection and arrest, respectively.

Figures 7a, 7b, and the supporting data show very little change in these two measures of perceived risk over the course of the programs. Only Modesto (three percentage points) and Visalia (eight percentage points) experienced increases in the reported risk of being stopped between the first baseline month and the final month of the program, as measured by Question 9. The consistency of Modesto's trend over the duration of the program proved statistically significant ($p=0.02$), while Visalia's increase approached significance ($p=0.11$). The other experimental programs all declined slightly in reports of perceived risk of being stopped between June and April, while the risk in the comparison community remained unchanged. Question 10 concerned the risk of being arrested for DWI, if impaired and stopped by an officer. This risk remained essentially unchanged throughout the 11-month duration of the survey at all sites; that is, only trivial differences were found between the before and after values, and no statistically significant changes in the risk of arrest were measured when the full series' of data were subjected to statistical analysis.

Responses were included in the previous analysis of Question 9 only if a respondent was aware of the program in his or her community (i.e., a "yes" to Question 5), and

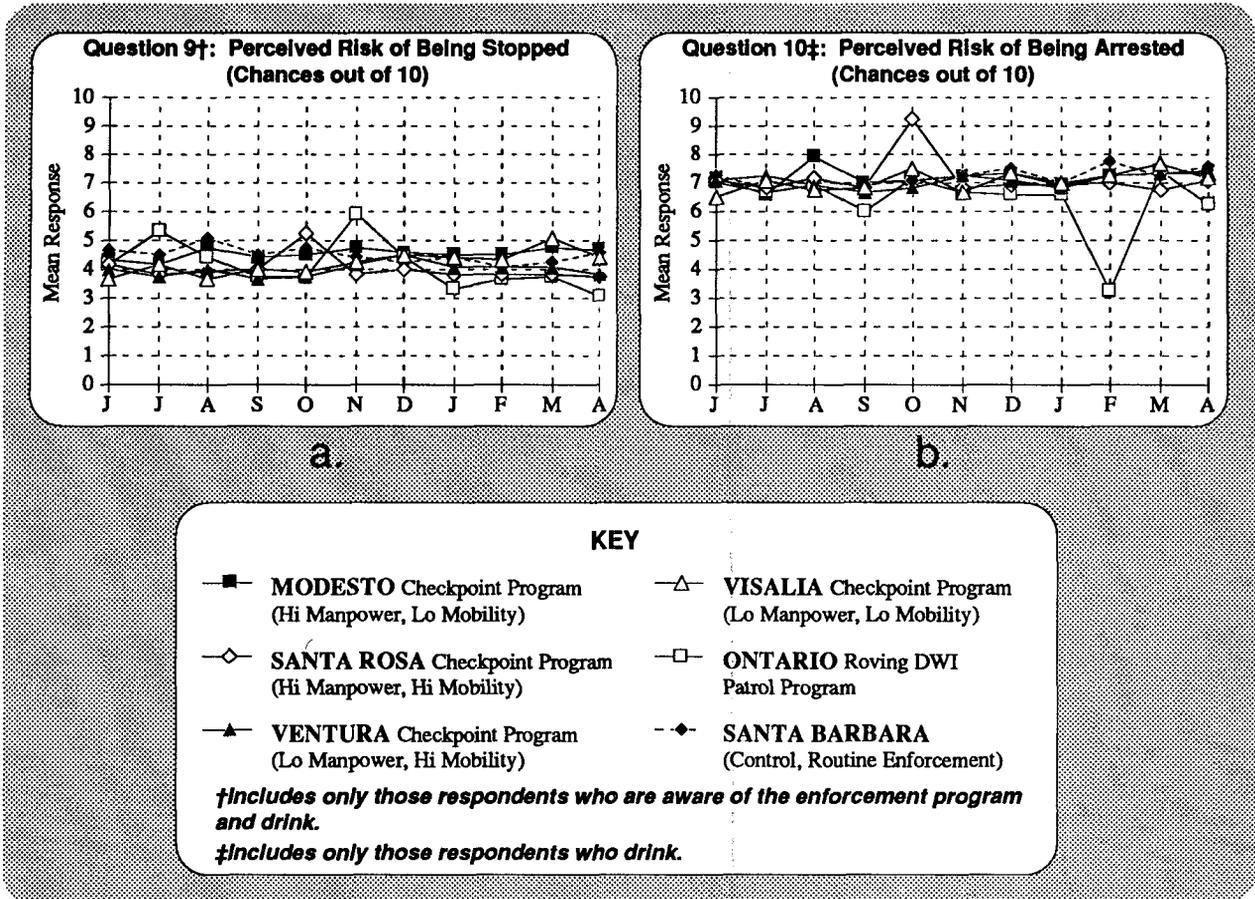


Figure 7. Summary of responses to survey Questions 9 and 10.

only if the respondent reported that he or she drank alcoholic beverages; only the latter criterion was applied to responses to Question 10. Thus, a more interesting analysis might be to compare the perceived risk of being stopped or arrested of those respondents who reported awareness of the programs to the perceived risk of those who were unaware. The more relevant question to the study is whether there is a difference in being *stopped* by an officer between those who are aware of the program and those who are not: no statistically significant differences were found, using a paired samples test (Pagano and Gauvreau, 1993). Concerning the risk of being *arrested* if stopped and impaired, significant differences were found in Modesto and Santa Barbara ($p=0.05$). Figures 8 and 9 present the results of the analyses for Questions 9 and 10, respectively.

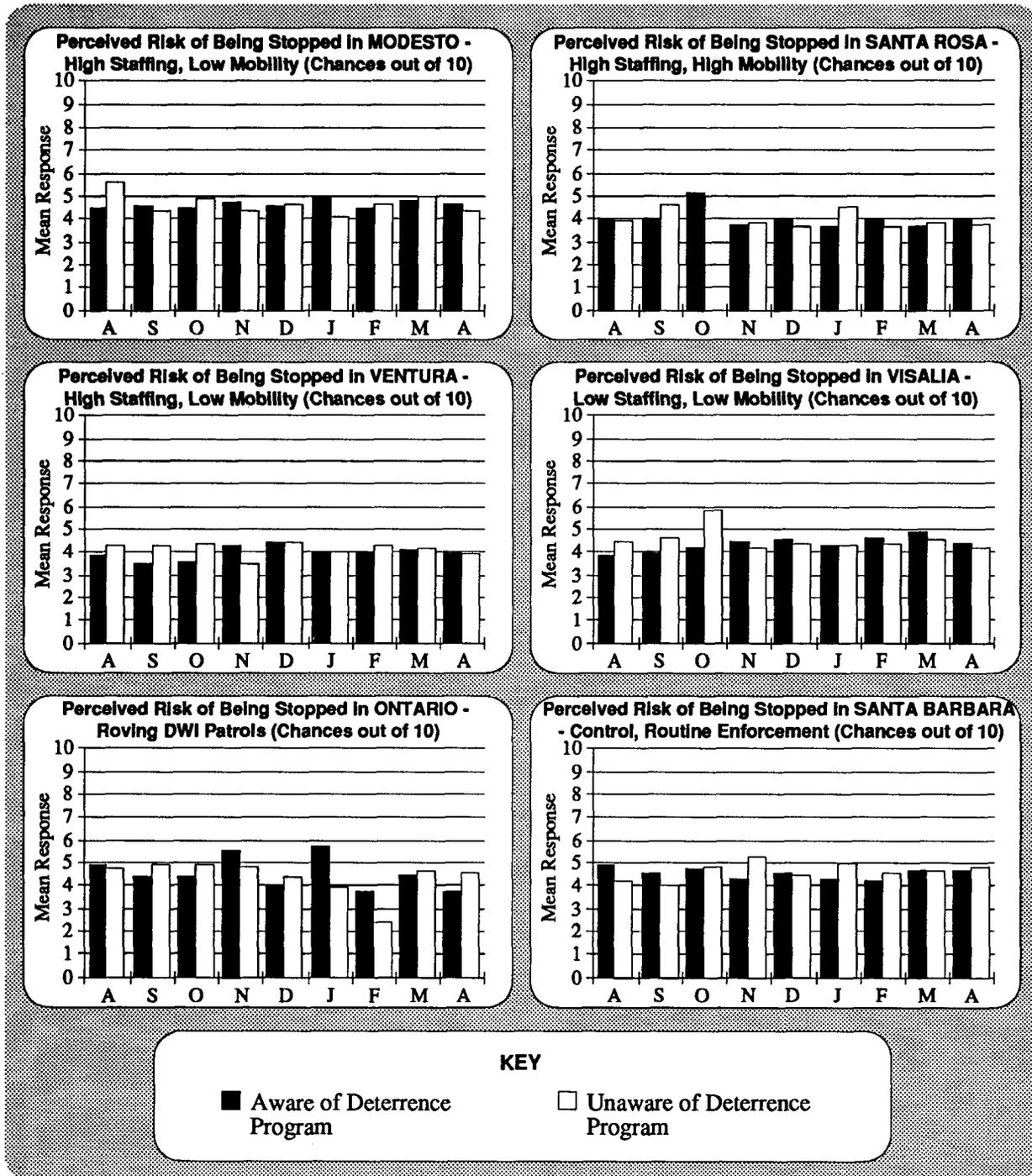


Figure 8. Summary of responses to survey Question 9.

NOTE: Low n in Santa Rosa for October; no "unaware" respondents.

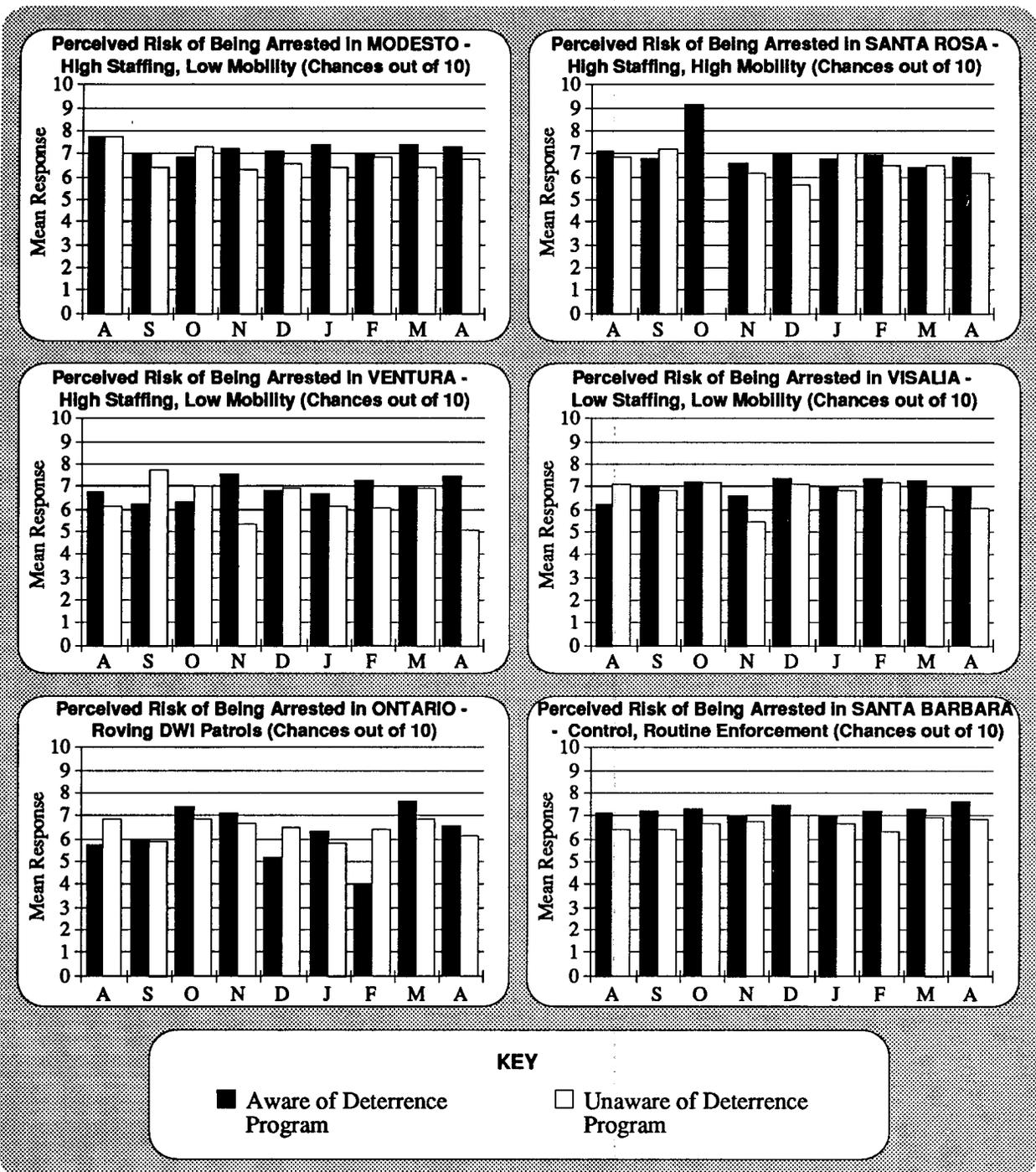


Figure 9. Summary of responses to survey Question 10.

NOTE: Low n in Santa Rosa for October; no "unaware" respondents.

Questions 11, 14, and 15 of the survey were designed to link perceived risk to driver behavior by asking respondents to report any changes in their drinking and driving behavior. Question 11 asked, "If you had to drive, and you knew in advance that there was going to be a sobriety checkpoint (or special DWI patrols in Ontario, or general DWI enforcement in the comparison community), would you drink as much as usual, less than usual, or not drink at all?" Question 14 asked, "Have you ever avoided driving a vehicle after drinking out of concern for being stopped by a law enforcement officer in your community?" Question 15 asked, "Have you ever avoided driving a vehicle after drinking out of concern for being stopped at a sobriety checkpoint in your community (or special DWI patrol, in Ontario)?" (No corresponding question could be asked in the comparison site.) The mean responses to these three questions are presented in Figure 10.

In response to Question 11, more than 90 percent of respondents in all participating communities claimed during the baseline period that they would either drink less than usual or not at all if they knew there would be *any* of the forms of DWI enforcement in their community (i.e., checkpoints, roving patrols, or routine enforcement). The proportions did not change during the course of the study, so no significant effects were obtained. Similarly, in response to Question 14, between 57 and 70 percent of respondents reported before the study that they had avoided driving after drinking out of concern for being stopped by an officer in their community; again, those proportions did not change during the study, and no significant effects were found. Finally, in response to Question 15, between 40 and 50 percent of those surveyed in five of the communities claimed during the baseline months that they had previously avoided driving after drinking out of concern for being stopped at a sobriety checkpoint, or a special patrol (in Ontario); in Santa Rosa, 30 percent reported that they had avoided driving out of concern for a checkpoint in their community--but there had never been a checkpoint in Santa Rosa until the month after the baseline period.

Analysis of responses to Questions 9, 10, 11, 14, and 15 suggests that the experimental programs had no effect on perceived risk and drinking and driving behavior. Alternatively, the survey instrument, in particular, the use of self-reports of behavior, may have been insensitive to these dependent measures. Further discussion of these results is provided in Chapter 4 of this report.

PUBLIC SUPPORT FOR DWI ENFORCEMENT PROGRAMS

Questions 12 and 13 were included in the survey to obtain measures of public support for the DWI enforcement programs. Question 12 asked, "How much do you think sobriety checkpoints (special DWI patrols in Ontario, general DWI enforcement in Santa Barbara) help reduce the number of drunk drivers on the road?" Response options to this question were, Not at all, A little, Some, and A lot. Question 13 asked, "What do you think about sobriety checkpoints (special DWI patrols in Ontario, general DWI enforcement in Santa Barbara) in your community?" Response options to this

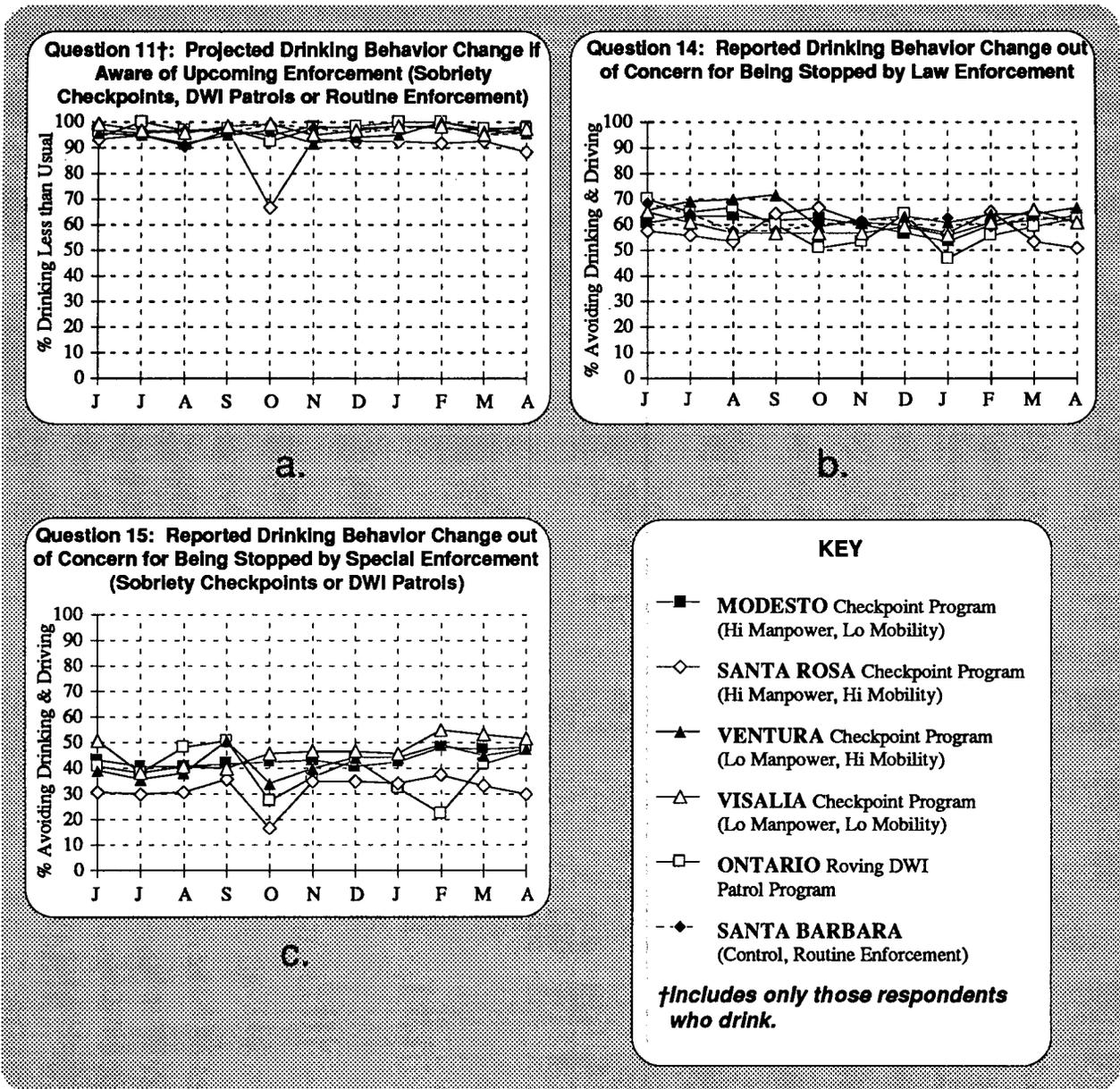


Figure 10. Summary of responses to survey Questions 11, 14, and 15.

question were, I strongly disapprove, I disapprove, I am neutral, I approve, I strongly approve. Figure 11 provides a summary of the responses to these two questions.

Figure 11a shows a general increase in the belief that the experimental programs can help “a lot” to reduce the numbers of drunk drivers on the road. The exception to this trend is Santa Rosa’s checkpoint program, during which public perceptions of program effectiveness actually declined, but not significantly. On average, 37 percent of

those surveyed in the checkpoint communities responded “a lot” to this question two months before program implementation, while 39 percent responded “a lot” during the final month of the program. When Santa Rosa is excluded from the calculation, the numbers are 38 before and 43 at the end of the programs. This amounts to a change of nearly five percentage points, or a 12 percent increase. Randomization Tests were applied to the 11-month series’ of data. Only Modesto and Ontario increased significantly ($p=0.02$ and 0.04 , respectively), and Visalia approached significance ($p=0.07$) among the experimental communities on this measure of public support. It is interesting to note that the comparison site also increased significantly (and inexplicably) on this measure during the same period ($p=0.04$).

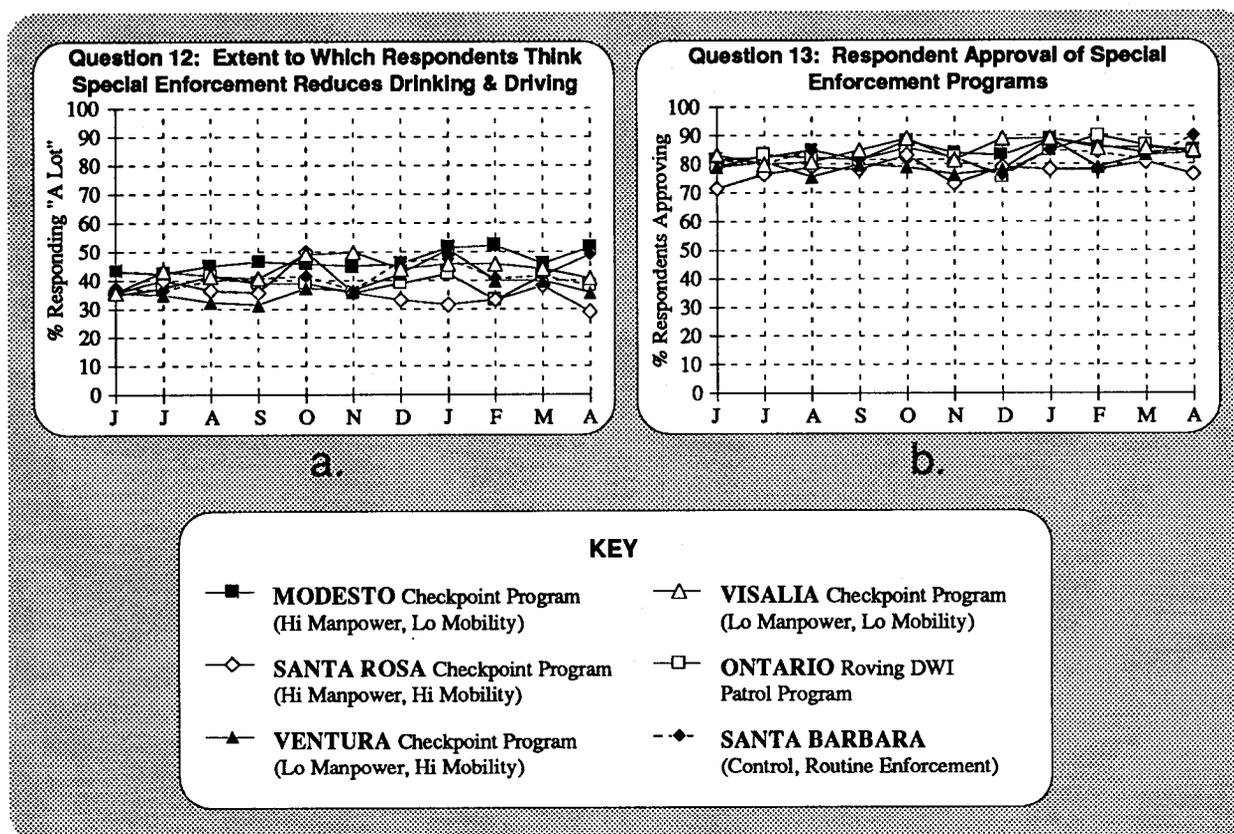


Figure 11. Summary of responses to survey Questions 12 and 13.

Figure 11b shows an extremely high level of public support for all forms of DWI enforcement included in the study. Baseline levels in all communities, except Santa Rosa, were about 80 percent responding either Approve or Strongly approve; 70 percent approved or strongly approved in Santa Rosa. More important, public approval of the enforcement efforts tended to increase throughout the study at all of the sites, including the comparison community. A significant increase in public approval was

found in Modesto ($p=0.04$), with Santa Rosa ($p=0.055$) and Visalia approaching significance ($p=0.07$).

EFFECTS OF THE EXPERIMENTAL PROGRAMS ON MEASURES OF TRAFFIC SAFETY

ALCOHOL-INVOLVED CRASHES

A standard traffic collision record form is submitted to California's Statewide Integrated Traffic Records System (SWITRS) for every traffic collision that occurs within the state; SWITRS is operated by the California Highway Patrol (CHP). Crash data were obtained from SWITRS for each of the six participating sites, and for California as a whole. The data provided by SWITRS excluded all crashes reported by sheriff's departments and by the CHP; that is, only crashes that were reported by municipal police departments were included in the analyses, to maximize comparability and relevance of the data.⁹ Statewide totals further excluded the 17 communities with the most active DWI-deterrence programs (including the five experimental sites); all of the communities excluded from the analysis had conducted OTS-sponsored, special enforcement, and PI&E programs during the study period. Several categories of crash data were provided by SWITRS, by day, for a six-year period (1987-1993).

DWI enforcement, and research projects like the current study, are conducted only because alcohol-impaired drivers have a tendency to crash their vehicles, frequently resulting in injuries and fatalities; NHTSA estimates that nearly half of all fatal crashes involve alcohol (FARS 91). Thus, the number of alcohol-involved crashes in a community is clearly the most relevant and credible dependent measure of the effectiveness of a DWI-deterrence program. Numbers of DWI arrests, for example, can increase or decrease in response to enforcement effort, but crashes occur independently of police activity, except to the extent that enforcement effort *deters* the behaviors that contribute to crashes. Alcohol-involved crash data were analyzed in two ways: 1) changes in the proportions of all injury and fatal crashes that were alcohol-involved; and 2) changes in the actual numbers of alcohol-involved fatal and injury crashes. The results of these analyses are presented below.

Figure 12 illustrates the proportions of all injury and fatal crashes that were alcohol-involved in the six participating communities, and in California as a whole, for the nine-month program period; for comparison, data are also included for the corresponding nine-month period from the previous years (i.e., August-April 1991-92 vs August-April 1992-93). Proportions of all injury and fatal crashes that were alcohol-involved are used for two reasons. 1) Factors outside the scope of experimental control can influence crash incidence (e.g., weather, traffic volume); expressing alcohol-involvement as a proportion of all crashes, therefore, eliminates the effects of other factors on total crash

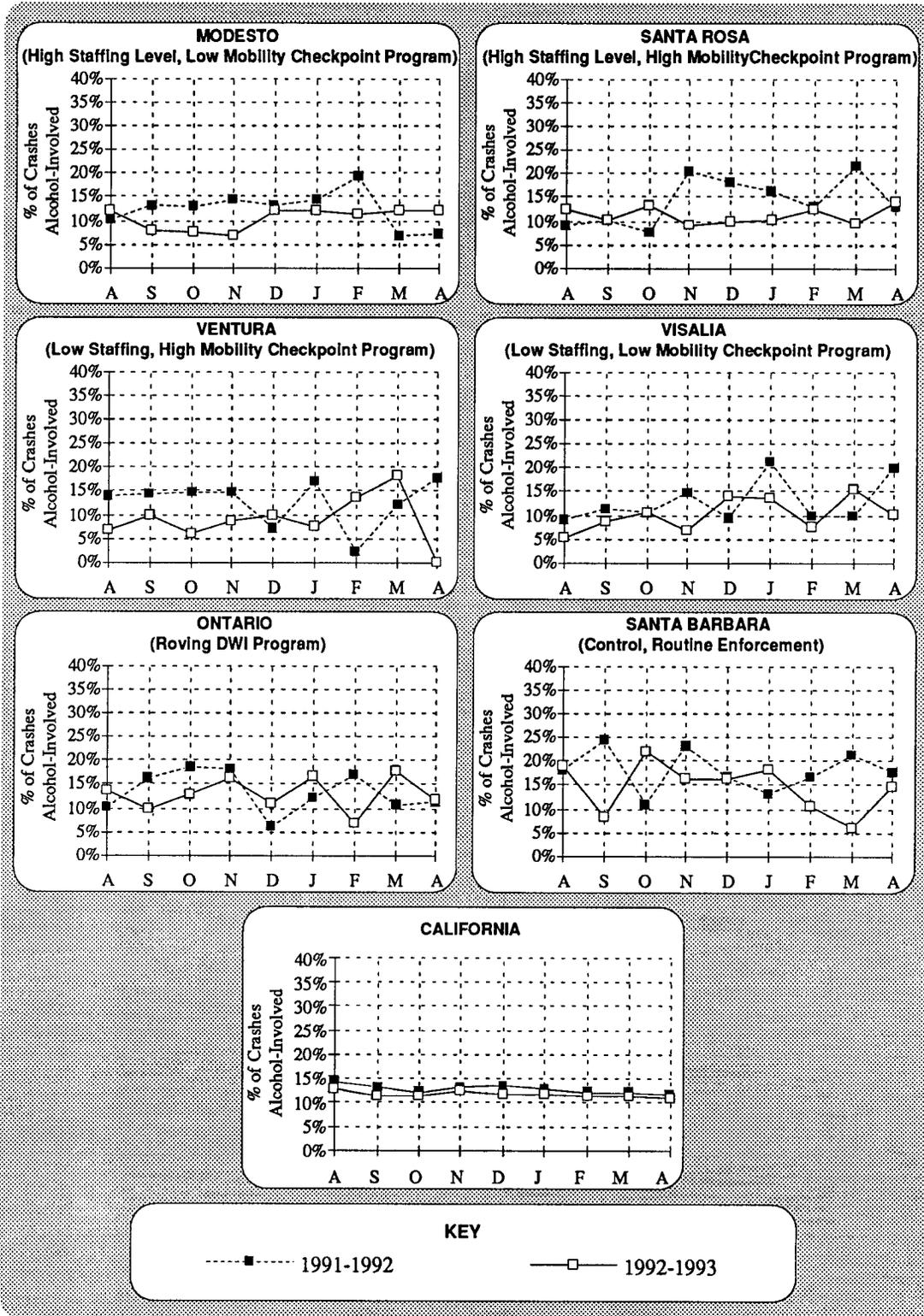


Figure 12. Proportions of all injury and fatal crashes that were alcohol-involved.

incidence. 2) Expressing alcohol-involvement as proportions also permits comparisons to be made between communities of different sizes and to the state as a whole. Also, fatal injury crashes are combined with all other injury crashes because the numbers of traffic fatalities in a community of about 100,000 population are too small to analyze independently.

The data presented in Figure 12 show a general decline in the proportion of all injury and fatal crashes that involved alcohol during the program period from the corresponding months one year earlier. The decline is apparent in all six of the participating communities, including the comparison site, and in the totals from all other California cities (less 17 with the most active DWI countermeasure programs). The numbers of alcohol-involved traffic crashes in the participating communities ranged from three to 15 per month during the reporting periods; the California totals reflect a more consistent trend due to the much larger numbers (more than 1,100 injury and fatal crashes per month).

The alcohol-involved crash data for each of the six sites were subjected to paired samples tests; in this test the differences are calculated between a program month and the corresponding month one year before (i.e., August 1992 is paired with August 1991, etc.). The mean difference is derived, then that value is divided by the product of its standard deviation divided by the square root of nine, the number of paired months. The resulting *t* statistic is used to determine if a difference is significant. The results of these analyses showed that Visalia is the only community among the six that experienced a statistically significant decline in the proportion of alcohol involved crashes during the experimental program ($p=0.01$). However, a statistically significant effect was found when the data from all four checkpoint sites were combined to compare checkpoint programs to the roving patrol and the comparison communities, and to obtain larger, more stable numbers for analysis. This result is particularly important to the evaluation because a paired samples test found that there was *no* statistically significant decline in the proportion of all injury and fatal crashes that were alcohol-involved throughout California, despite the consistency of the statewide decline during the nine-month period.

Table 7 summarizes the changes in proportions from the nine months during 1991-92 to the nine-month experimental period in 1992-93. The table shows that when the data from all four checkpoint sites are combined, the combined mean proportion of crashes during the experimental period was three percentage points below the combined mean from the corresponding months one year earlier; the paired samples test found this difference to be statistically significant, representing a 48 percent decline in alcohol-involved crashes in the checkpoint sites ($p=0.01$). California totals declined by only one percentage point, representing an eight percent decline; this decline was found to be significant ($p=0.01$). In other words, the proportion of all injury and fatal crashes that involved alcohol declined generally during the experimental period, but the declines were statistically significant in the checkpoint communities, when data from all four

checkpoint sites are combined; and, the decline in those communities was three times the general decline experienced throughout the state.

TABLE 7
SUMMARY OF ALCOHOL-INVOLVED INJURY AND FATAL CRASHES
AUGUST-APRIL: 1991-92 VS 1992-93
Proportions of All Injury and Fatal Crashes that were Alcohol-Involved

Program/ Site No.	City	Program Description	Proportion		Percent Change
			91-92	92-93	
1	Modesto	High Staffing/Low Mobility	.124	.104	- 16
2	Santa Rosa	High Staffing/High Mobility	.143	.116	- 19
3	Ventura	Low Staffing/High Mobility	.128	.087	- 32
4	Visalia	Low Staffing/Low Mobility	.129	.074	- 43
5	Ontario	Special Roving DWI Patrols	.134	.127	- 5
6	Santa Barbara	Comparison Site (no program)	.179	.148	- 17
		All four checkpoint sites combined	.131	.095	- 28
		All Cities in State of California (less those with the most active DWI deterrence programs)	.126	.116	- 8

Another way of approaching this measure of traffic safety is to focus on the actual numbers of alcohol-involved crashes within a site, rather than the proportions of all crashes that are alcohol-involved; this approach is preferred to the use of proportions for certain types of analyses, including time series analysis. Table 8 summarizes comparisons made between the program period and the corresponding nine-month period one year earlier, in terms of actual numbers of alcohol-involved injury and fatal crashes. The table shows that all sites, with the exception of Ontario, experienced a decline in the number of alcohol-involved crashes (declines ranged from 12 fewer crashes in Santa Rosa to 23 fewer crashes in Visalia). Paired samples tests found that the declines in Visalia and in California as a whole were statistically significant ($p=0.01$). Most important, a statistically significant effect was again found when the data from all four checkpoint sites were combined to compare the checkpoint programs to the roving patrol site and the comparison sites, and to obtain larger, more stable numbers (i.e., greater power) for analysis. Table 8 shows that when data from all four checkpoint sites are combined, the combined number of crashes during the experimental period was 66 fewer than during the corresponding months one year earlier; this effect is statistically significant and represents a 22 percent decline in alcohol-involved crashes in the checkpoint sites ($p=0.04$). California totals also declined significantly, but by 15 percent ($p=0.01$).

TABLE 8
SUMMARY OF ALCOHOL-INVOLVED INJURY AND FATAL CRASHES
AUGUST-APRIL: 1991-92 VS 1992-93
Numbers of Injury and Fatal Alcohol-Involved Crashes

Program/ Site No.	City	Program Description	No. of Crashes		Percent Change
			91-92	92-93	
1	Modesto	High Staffing/Low Mobility	95	79	- 17
2	Santa Rosa	High Staffing/High Mobility	94	82	- 13
3	Ventura	Low Staffing/High Mobility	47	32	- 32
4	Visalia	Low Staffing/Low Mobility	60	37	- 38
5	Ontario	Special Roving DWI Patrols	75	75	0
6	Santa Barbara	Comparison Site (no program)	96	75	- 22
		All four checkpoint sites combined	296	230	- 22
		All Cities in State of California (less those with the most active DWI deterrence programs)	1,514	1,289	- 15

Time series analyses were performed, in addition to the paired samples tests. Essentially, with time series analysis a statistician attempts to predict the future by developing a mathematical understanding of the past; that understanding must take into account a great deal of variation caused, for example, by seasonal fluctuations. Variations of the time series technique are used to predict a wide range of events, from the price of corn to the incidence of disease. In the current context, time series analyses were performed to mathematically model the declining (i.e., improving) trends in the key dependent measure of program effect. Because most measures of traffic safety have been improving for several years, as discussed in the Introduction to this report, the time series model must include components corresponding to both long range trends and the intervention. Trend intervention and other (e.g., seasonality, serial dependence) components are estimated in the context of a full information model. Although the final model is constructed iteratively, final parameters are estimated in a single step. Because maximum likelihood methods are used, significance of the intervention can be tested with the familiar *t* statistic, which is a product of the estimation algorithm. A significant negative coefficient for the intervention variable means that a significant reduction in crashes occurred coincident with the countermeasure program.

Interrupted time series (ITS) analyses were performed using the six-year data base provided by SWITRS (McCleary, et al., 1980). The analyses included the entire series of data from January 1987 through April 1993; data were normalized into 28-day

months, and a square root transformation was performed to obtain a normal distribution. Injury and fatal crashes were combined, as in the analyses described previously. Nine months of data for the City of Santa Rosa were missing from the SWITRS data base (from 1989), which prevented performance of an analysis for the Santa Rosa program. The results of the completed time series analyses are summarized in Tables 9A and 9B. Table 9A presents the results of the analyses performed on the numbers of alcohol-involved injury and fatal crashes. Table 9B presents the results of the analyses performed on the numbers of injury and fatal crashes that did *not* involve alcohol.

TABLE 9A
SUMMARY OF THE RESULTS OF THE TIME SERIES ANALYSES:
CHANGES IN NUMBERS OF INJURY AND FATAL CRASHES
THAT INVOLVED ALCOHOL
1987-1993

Program/ Site No.	City	Program Description	Mean of the Series	Percent Change	t	p
1	Modesto	High Staffing/Low Mobility	11.70	-9.3	-2.46	.0080
2	Santa Rosa	High Staffing/High Mobility	Too many missing months for ITS			
3	Ventura	Low Staffing/High Mobility	6.66	-39.7	-2.24	.0139
4	Visalia	Low Staffing/Low Mobility	6.28	-14.7	-1.89	.0311
5	Ontario	Special Roving DWI Patrols	10.93	-18.0	-2.13	.0181
6	Santa Barbara	Comparison Site (no program)	10.31	-11.0	-1.82	.0362

TABLE 9B
SUMMARY OF THE RESULTS OF THE TIME SERIES ANALYSES:
CHANGES IN NUMBERS OF INJURY AND FATAL CRASHES
THAT DID *NOT* INVOLVE ALCOHOL
1987-1993

Program/ Site No.	City	Program Description	Mean of the Series	Percent Change	t	p
1	Modesto	High Staffing/Low Mobility	69.35	+12.9	1.65	.9486
2	Santa Rosa	High Staffing/High Mobility	Too many missing months for ITS			
3	Ventura	Low Staffing/High Mobility	36.82	-7.4	-1.17	.1227
4	Visalia	Low Staffing/Low Mobility	38.27	+3.5	.18	.5712
5	Ontario	Special Roving DWI Patrols	53.66	-3.9	-.46	.3234
6	Santa Barbara	Comparison Site (no program)	49.34	-10.3	-1.47	.0727

Table 9A shows that all five of the communities experienced statistically significant declines in the numbers of alcohol-involved crashes during the experimental period. All of the effects were highly significant, as measured by the time series analyses, but the decline measured in the comparison community was not as great as the declines in the experimental communities. In contrast, Table 9B shows that none of the participating communities experienced a significant decline in the numbers of *non*-alcohol-involved injury and fatal crashes during the experimental programs; and, the comparison community experienced the largest decline in non-alcohol-involved crashes (an average of 49 per month), which approached significance ($p=0.07$). Logistic regression was used to examine this relative decline in alcohol and non-alcohol crashes. Further discussion of this key result is presented in the final chapter of this report.

DWI ARRESTS

When recruiting the police departments to participate in this study, the project director emphasized that the purpose of the special enforcement efforts was not to prevent people from drinking alcohol nor even to make DWI arrests. Rather, it was explained that the purpose of all DWI deterrence programs is simply to *deter* motorists from driving after they have been drinking. Thus, a measure of program success might be fewer, rather than more, DWI arrests as the program proceeds. The general deterrence philosophy was difficult for some police offices to accept, due to the long tradition in law enforcement of measuring productivity in terms of arrests made. It is contrary to law enforcement "culture" to measure the success of a program by a decreasing arrest rate, but fewer arrests is an appropriate measure of general deterrence effect if enforcement effort remains constant as it did in the four checkpoint programs (i.e., on average, two checkpoint nights per month for nine consecutive months).

Figure 13 presents the numbers of DWI arrests made at the 72 sobriety checkpoints conducted as part of this research project (18 checkpoints x four sites). If the checkpoint programs had no deterrence effect on motorists it would be expected that approximately equal numbers of DWI arrests would have been made throughout the programs. To test this hypothesis the total number of arrests from the first nine checkpoints was compared to the totals from the last nine checkpoints in each of the four programs. In all but one program, more arrests were made during the first nine checkpoints than during the last nine. When the numbers from all four checkpoint programs are combined to provide larger, more reliable numbers for analysis the difference becomes clear: 83 DWI arrests were made at checkpoints during the first half of the programs, compared to 57 during the second half. An average of 21 DWI arrests were made in each checkpoint site during the first nine checkpoints, compared to an average of 14.5 arrests during the second nine. A paired samples *t*-test revealed that, on average, significantly more arrests were made in the first half of the checkpoint programs than in the second half ($p<0.05$). Figure 14 is provided as a basis for comparing the arrest frequencies of the four checkpoint programs, by month, to the arrests made by the roving patrols in Ontario. The figure reveals that while DWI arrests were declining at the sobriety checkpoints, they were increasing in the site that was conducting special DWI patrols.¹⁰

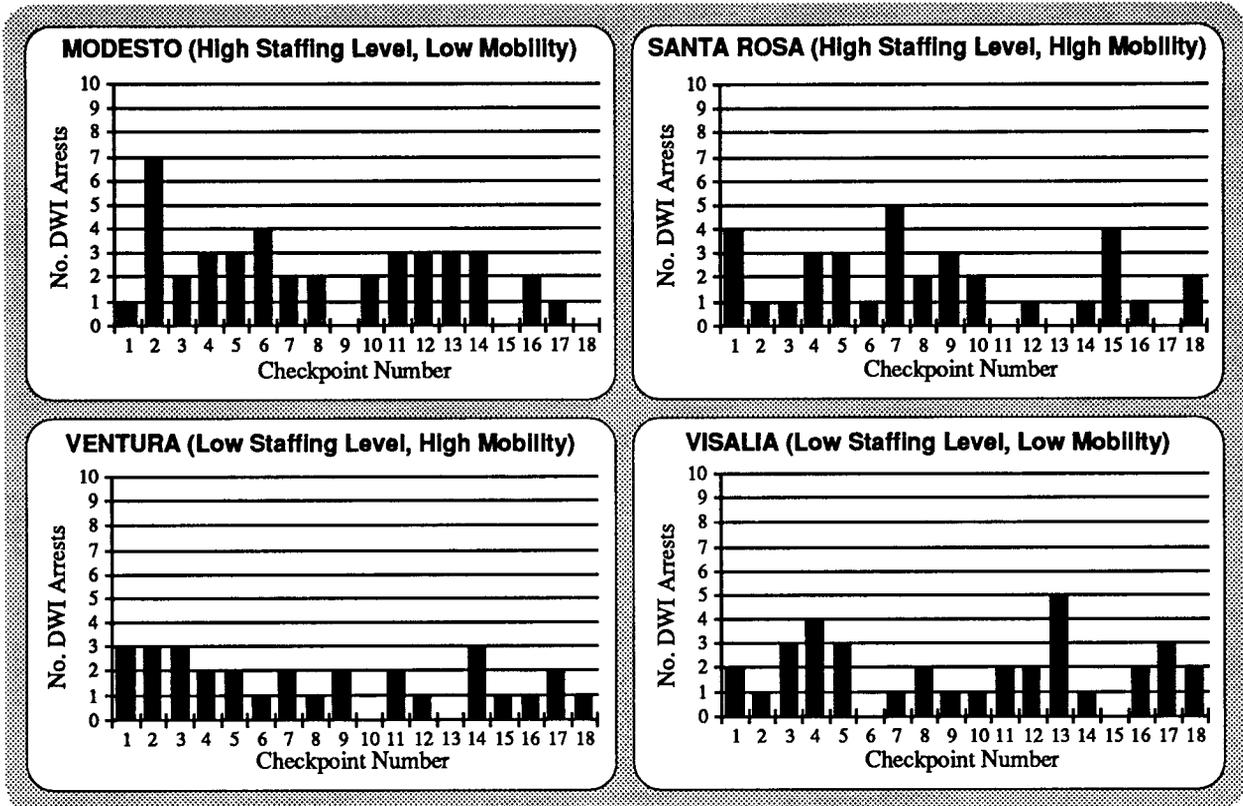


Figure 13. Numbers of DWI arrests at checkpoints.

The difference in numbers of arrests made between the first and second halves of the programs is particularly important because at the same time that DWI arrest frequency was declining at the checkpoints, the numbers of motorists contacted at those checkpoints were increasing. Figure 15 presents the numbers of vehicles contacted per checkpoint in each of the checkpoint programs. In all four checkpoint programs, more vehicles were contacted during the last nine checkpoints than during the first nine. When the numbers are combined it is found that 13,039 vehicles were stopped at checkpoints during the first half of the programs, compared to 16,222 during the second half; that is, on average, 795 more vehicles were stopped by each of the checkpoint programs during the second half of the special enforcement period than during the first half, representing a 20 percent increase in vehicle contacts. This difference approached statistical significance ($p=0.15$).

The proportion of vehicles contacted that resulted in a DWI arrest was calculated for each of the checkpoints (by dividing the number of DWI arrests made by the number of vehicles contacted). The resulting "arrest rates," expressed as decimal fractions, take into account the general decline in the numbers of DWI arrests and the increase in the numbers of vehicles contacted as the checkpoint programs progressed. Figure 16 shows the combined arrest rate during the course of the four experimental checkpoint programs. The programs began with a combined arrest rate of approximately .008, or

about four DWI arrests per 500 vehicles contacted, but by the mid-points of the programs the rate had fallen to .004, or two arrests per 500 vehicles. The arrest rate declined further by the end of the program; a combined rate of .0019, or about one DWI arrest per 500 vehicles, was reached on the last of the 18 checkpoints conducted by each of the four participating police departments.

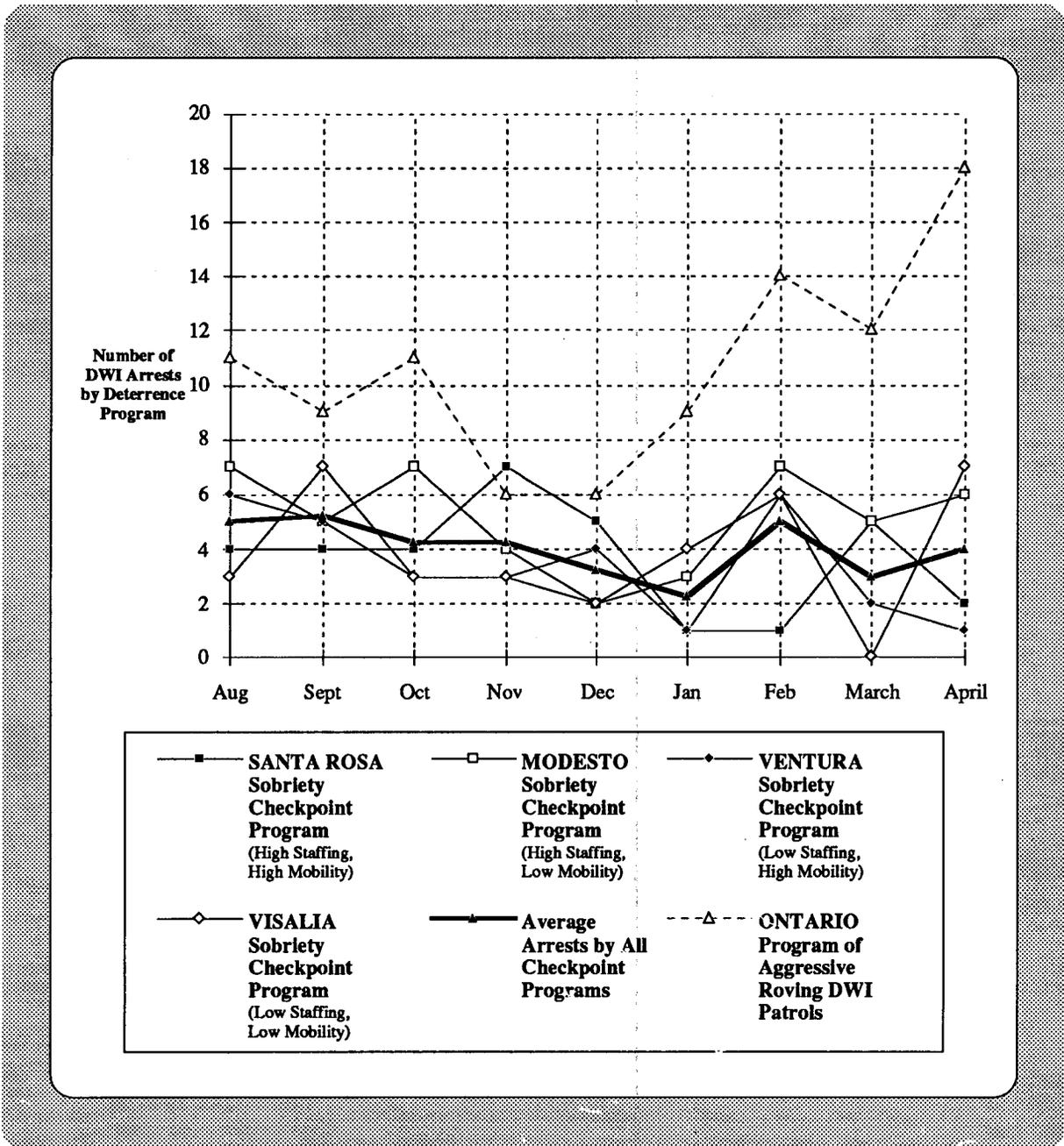


Figure 14. Numbers of DWI arrests by deterrence program.

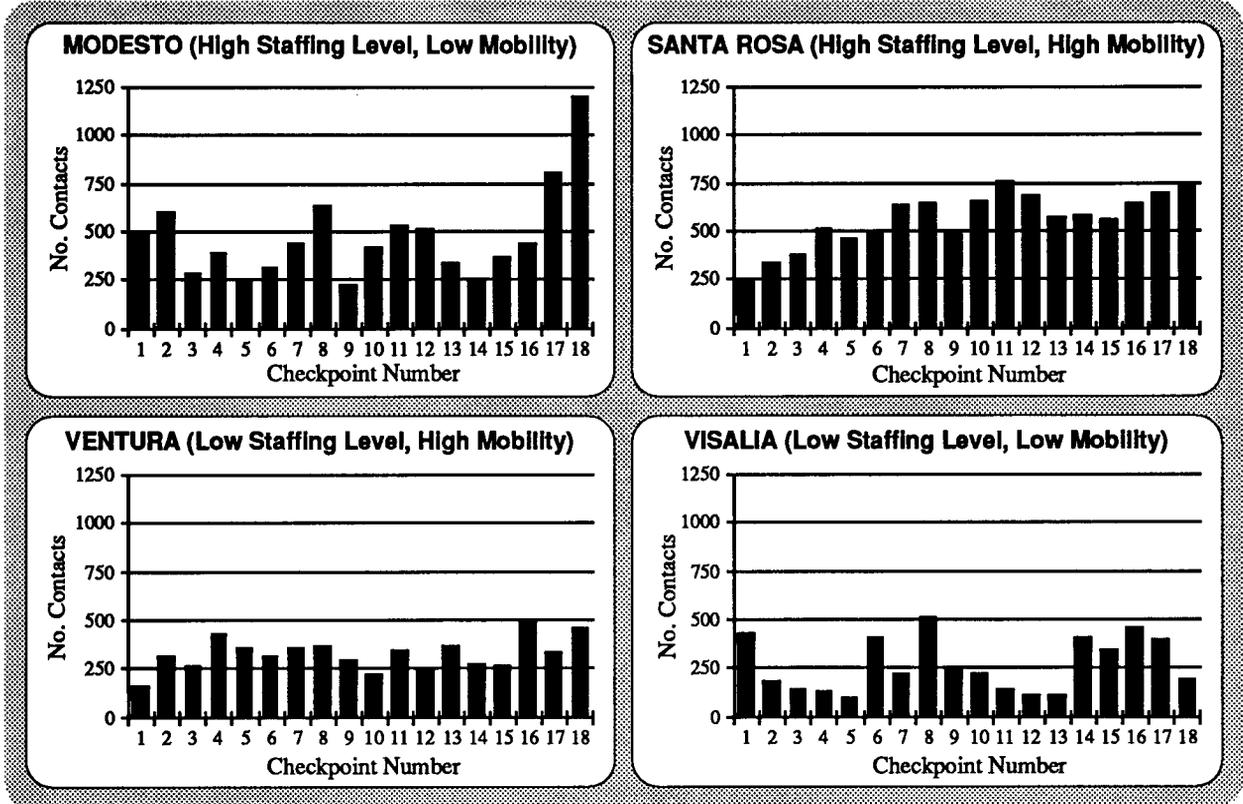


Figure 15. Numbers of vehicle contacts at checkpoints.

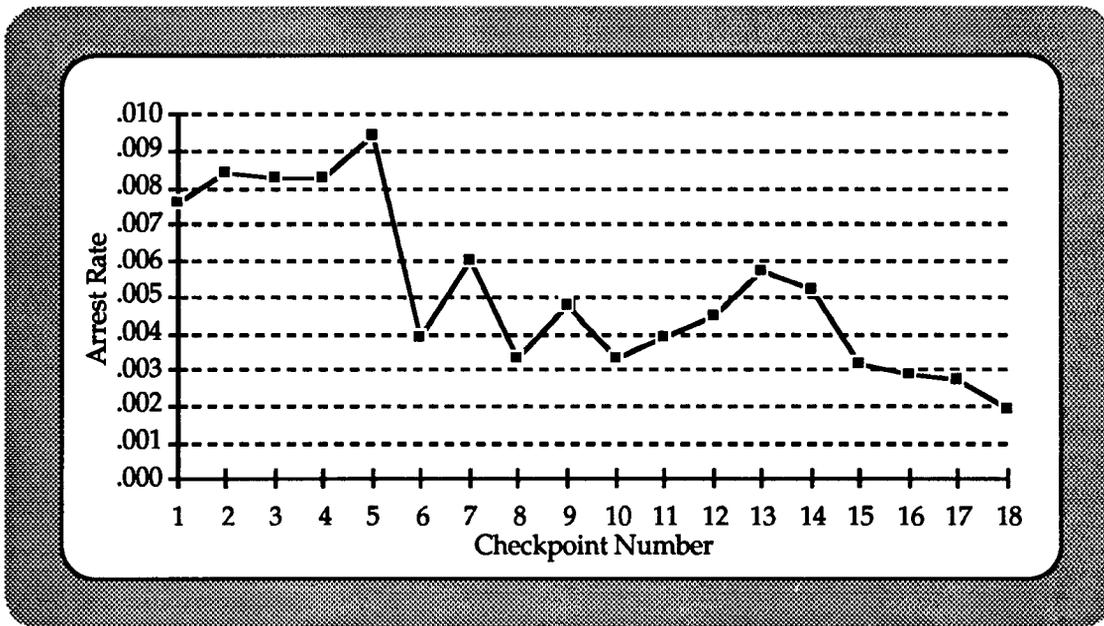


Figure 16. Combined arrest rates of the four checkpoint programs.

DWI CONVICTIONS

All 140 DWI arrests made at the sobriety checkpoints, and all 96 DWI arrests made by the Ontario Police Department's special roving patrols, resulted in convictions. Only two DWI arrests made at checkpoints were contested; both were contested on the basis of procedural issues, such as prior announcement. Both traffic sergeants produced the checkpoint administrative records and several examples of specific and general publicity about the checkpoints to satisfy the courts.

DWI ARRESTS BY OTHER MEANS

Data were collected from the participating police departments concerning the arrests made by means other than the experimental programs (e.g., routine patrols, responses to traffic collisions, etc.). These data were not subjected to analysis because the arrest frequencies are subject to variations in enforcement effort and seasonal factors that are beyond experimental control. It is interesting, however, to compare the proportions of all DWI arrests in the communities that were made as a result of the special enforcement efforts. Table 10 presents these numbers. The table reveals that DWI arrests made at sobriety checkpoints ranged from six percent of all DWI arrests in a community (in Santa Rosa and Visalia) to 14 percent (in Ventura); the combined value for all four checkpoint programs is eight percent. A total of 96 DWI arrests were made by the special roving patrols in Ontario, representing 17 percent of all DWI arrests made by the Ontario PD during the experimental period. The number of DWI arrests made by the roving patrol program was nearly three times the average number of DWIs made by the checkpoint programs. Recall that the roving patrols operated for a total of 648 officer hours, a level of effort comparable to the low end of the high-staffing level range for checkpoints.

TABLE 10
 NUMBERS OF DWI ARRESTS BY PROGRAMS AND
 BY MEANS OTHER THAN SPECIAL ENFORCEMENT

Program/ Site No.	City	Program Description	DWI Arrests By Program	DWI Arrests Total	Percentage By Program
1	Modesto	High Staffing/Low Mobility	41	414	10
2	Santa Rosa	High Staffing/High Mobility	34	547	6
3	Ventura	Low Staffing/High Mobility	30	238	14
4	Visalia	Low Staffing/Low Mobility	35	591	6
	Totals from all four checkpoint communities		140	1,790	8
5	Ontario	Special Roving DWI Patrols	96	569	17

OTHER MEASURES

It could be inferred that the frequencies of single-vehicle and hit and run crashes provide additional measures of DWI general deterrence effects. A disproportionate, but

undefined, number of both types of collision are believed to have alcohol-impairment as a contributing factor. A change in the numbers of single-vehicle or hit and run crashes might, therefore, be used as an indirect indicator of DWI activity, in general. Inferential measures such as these offer the advantage of unobtrusiveness, but there are important disadvantages, as well. In particular, the numbers of single-vehicle and hit-and-run crashes in a community are volatile, because they are influenced by many factors in addition to alcohol-impairment.

Figures 17 and 18 illustrate the changes in single-vehicle and hit-and-run crashes, respectively, for the six participating communities in the current study. Paired samples tests were conducted on the data, despite the limitations of single-vehicle and hit-and-run crashes as dependent measures of program impact. The tests revealed a statistically significant reduction of single-vehicle crashes in the communities conducting roving patrols ($p \leq 0.05$). Also, a significant reduction was found in the numbers of hit-and-run crashes in both the sobriety checkpoint program communities of Ventura and Visalia ($p \leq 0.05$). The consistency of the downward trends in both measures, statewide, resulted in significant declines for California as a whole ($p \leq 0.05$).

ARE THERE DIFFERENCES IN EFFECTIVENESS IN THE FOUR CHECKPOINT CONFIGURATIONS EVALUATED?

STAFFING LEVEL

A Chi Square test was conducted to determine if staffing level affected public awareness of the checkpoint programs. This test was performed to compare the absolute levels of public awareness of the four checkpoint programs, as measured by responses to Question 5 on the DMV survey (i.e., the mean levels of awareness were compared, rather than measuring the changes in awareness over the course of the programs). The test found that the levels of awareness of the low staffing checkpoint programs were significantly higher than the awareness levels of the high staffing programs ($p < 0.01$).

A series of *t* tests was conducted to determine the effects of the staffing level and mobility variables on DWI arrests and vehicle contacts. For the first nine checkpoints a comparison between the two high staffing-level sites and the two low staffing-level sites revealed that significantly more arrests were made by the sites that employed more officers ($p \leq 0.05$). On the average, the high staffing-level sites were able to make 23.5 arrests in their first nine checkpoints compared to 18 arrests made by the low staffing-level groups in the same time period. No statistically significant differences were obtained between the different staffing level sites for the second nine checkpoints (mean number of arrests was 14 for high staffing-level and 14.5 for low staffing-level), nor were the overall differences significant. The significant difference in arrests between

high and low staffing level checkpoints during the *first* half of the programs and the absence of a difference during the *second* half demonstrates a potential deterrence effect of the checkpoint programs.

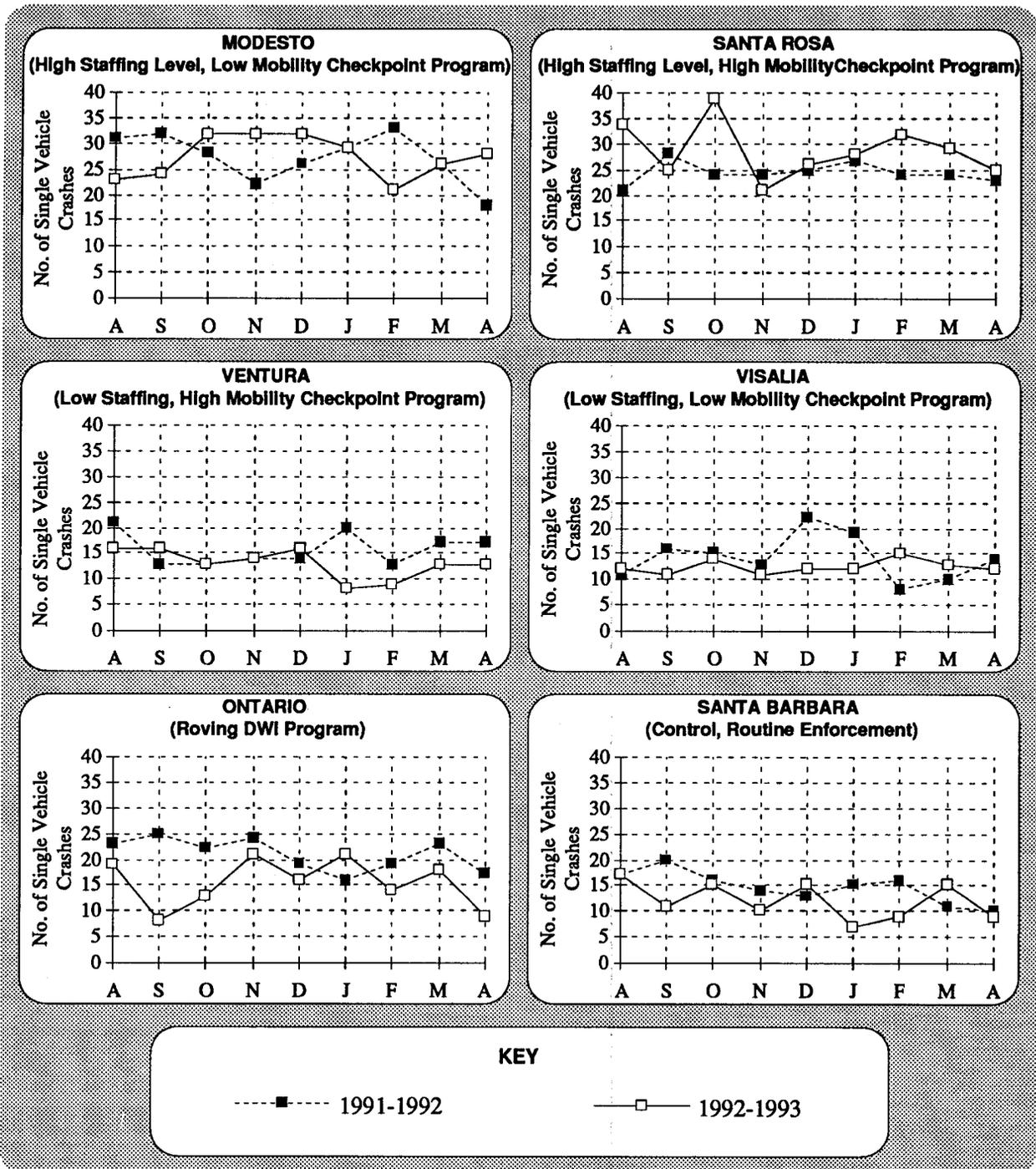


Figure 17. Numbers of single-vehicle crashes.

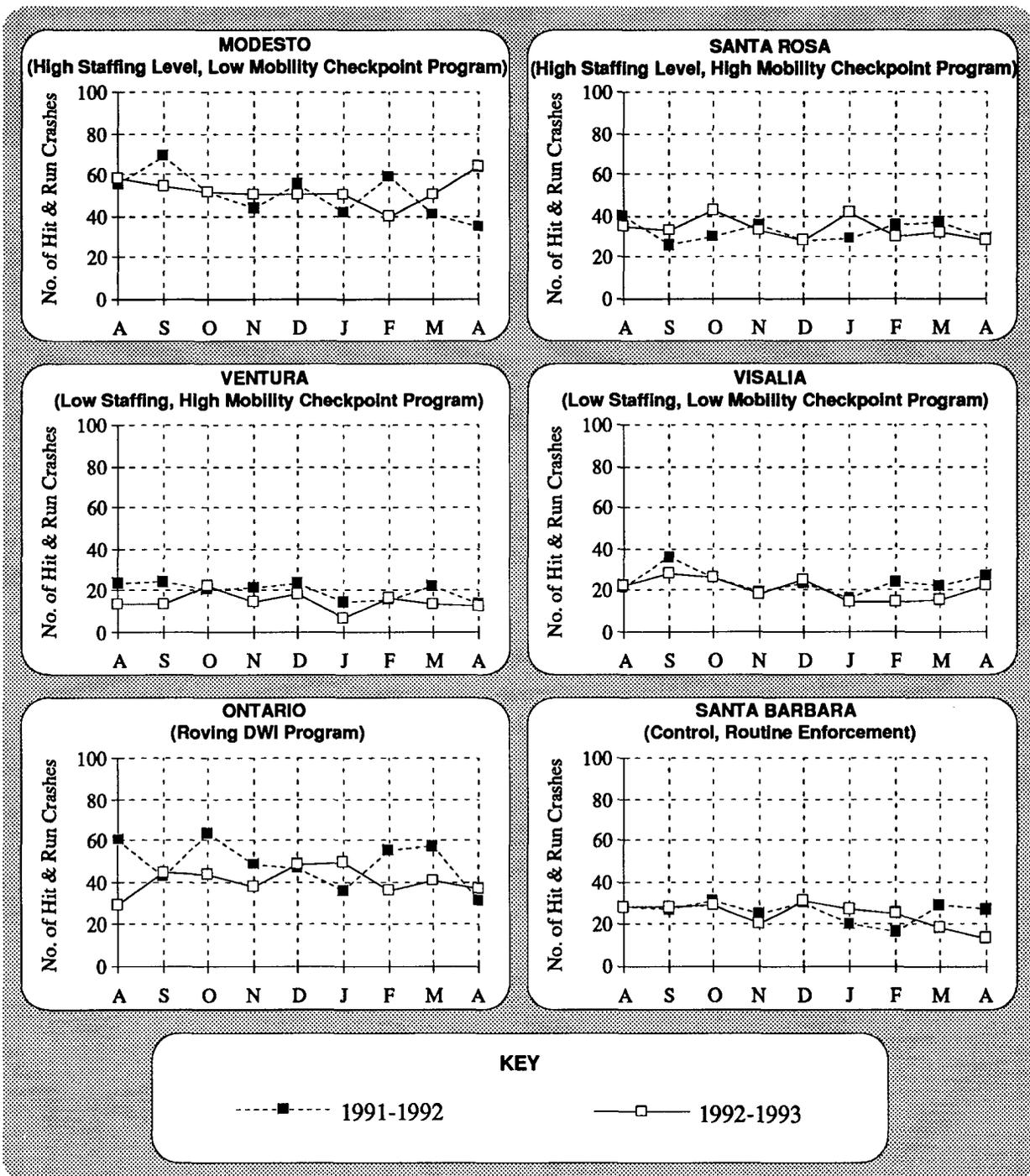


Figure 18. Numbers of hit-and-run crashes.

As might be expected, the data also indicated that higher staffing levels produce more vehicle contacts. A total of 9,290 contacts was made by the two high staffing-level sites compared to 5,340 for the low staffing-level sites; this difference was found to be statistically significant ($p \leq 0.05$). Furthermore, this effect was observed for both the first and second halves of the checkpoint programs. On average, the high staffing-level sites were able to contact 3,902 vehicles in their first nine checkpoints compared to 2,617 contacts made by the low staffing-level groups in the same time period. For the second half, the high staffing-level groups contacted 5,388 vehicles, while the low staffing-level sites made contact with only 2,723 vehicles.

MOBILITY

No effect of mobility was observed on public awareness or on overall DWI arrests; however, the high mobility group had significantly fewer arrests than did the low mobility group for the second half of the 18 checkpoints ($p \leq 0.05$). In the second half of their programs, the high mobility sites arrested an average of 11 individuals, compared to 17.5 arrests made by the low mobility group. In contrast, during the first nine checkpoints the two types of mobility configurations produced roughly equivalent numbers of arrests (21 vs 20.5 for high and low mobility, respectively). Recall that the high mobility checkpoints operated for three hours each night, compared to four hours for the low mobility configuration, due to the time required to dismantle and set-up the equipment at three sequential locations.

No overall effect of mobility was observed on the numbers of vehicles contacted at the checkpoints. The absence of a mobility effect on vehicles contacted held true for both the first and second halves of the experimental programs.

Because awareness is, theoretically, the key to general deterrence, a three-way Chi Square test was performed to compare the mean awareness levels of all four checkpoint programs to determine if checkpoint configuration contributed to public awareness. The test found that between the two low staffing level programs there was little difference in awareness; but, when comparing the two high staffing programs, the low mobility approach achieved a significantly higher public awareness level ($p = 0.05$). But this test compared Santa Rosa to Modesto, the program with the least vigorous publicity component to the program with clearly the most extensive publicity campaign of the project.¹¹ In other words, the apparent advantage of low mobility may be attributable to differences in publicity.

CHECKPOINT PROGRAMS COMPARED TO THE CONTROL

Logistic regression was used to compare the ratios of alcohol to non-alcohol involved crashes before and during interventions at the checkpoint sites and at the comparison site. On average, the ratio of alcohol to non-alcohol crashes was about 18 percent *lower* at checkpoint sites during the programs than during the baseline period (Wald ChiSquare=4.49, df=1, $p = 0.03$). In contrast, at the comparison site the ratio of alcohol to non-alcohol crashes was about 11 percent *higher* for the period corresponding to the checkpoint programs than it was for the baseline period (although

this change was not significant: Wald ChiSquare=0.31, df=1, p=0.57). This analysis considers the changes both in alcohol involved crashes and in non-alcohol involved crashes and confirms that there was a significant reduction in alcohol crashes at the checkpoint sites and no such reduction at the comparison site.

EVALUATION OF ADMINISTRATIVE FACTORS

Five factors were identified early in the project for administrative evaluation. Those factors include, labor and equipment costs of the program; numbers of vehicles stopped, and numbers of vehicles that are observed to avoid a checkpoint; and, acceptance by police personnel. Each of these issues is addressed, in turn, in the following paragraphs.

LABOR COSTS

Table 11 presents a summary of the labor costs incurred by the police departments that participated in the research project. Labor costs for the special enforcement programs ranged from a low of \$15,336 for Ventura's low staffing level/high mobility configuration to a high of \$43,848 for Modesto's high staffing level/low mobility configuration. Modesto diverted some officer's from other responsibilities on checkpoint nights to deploy the 12 sworn personnel, while at all other experimental sites the special enforcement effort was handled as an overtime assignment.

TABLE 11
SUMMARY OF PROGRAM LABOR COSTS

Program/ Site No.	City	Program Description	Officers per Night	Personnel Hours for Program	Total Labor Cost*
1	Modesto	High Staffing/Low Mobility	12	1,296	\$43,848
2	Santa Rosa	High Staffing/High Mobility	7	756	26,028
3	Ventura	Low Staffing/High Mobility	4	432	15,336
4	Visalia	Low Staffing/Low Mobility	5	540	18,900
5	Ontario	Special Roving DWI Patrols	2	648	21,384
6	Santa Barbara	Comparison Site (no program)	0 extra	0	0

*Rates are based on median police rates for the state: \$33 per hour for patrol officers and \$43 for sergeants. All program shifts were six hours. All checkpoint programs deployed one supervisor (sergeant) as part of the contingent (i.e., 108 hours of sergeant's time per program is included in the personnel hours and total labor costs). The roving patrol program did not require the extra deployment of supervisors; all Ontario labor is calculated on the basis of the patrol officer rate.

EQUIPMENT COSTS

All four of the police departments that conducted sobriety checkpoint programs received grants from the California Office of Traffic Safety (OTS) to purchase the

equipment needed to conduct checkpoints frequently. The equipment included signs, cones, lights and stands, cabling, a gas-powered generator, and a trailer to store and transport the equipment. Several vendors have emerged during the past two years offering checkpoint equipment and trailers to law enforcement agencies; the vendors market directly to police and sheriff's departments, and they display their equipment at law enforcement conferences. The departments that participated in the current study purchased their own sets of checkpoint equipment from two separate sources, using OTS grant funds. The departments paid an average of \$11,000 for their equipment sets.

The only special equipment that was purchased to support the special roving patrols of the Ontario Police Department was a set of magnetic signs. The signs displayed the logo of the Ontario RIDE Program and contained the phrase, "Special Roving Patrols that Focus on DUI Enforcement." The signs were attached to the rear quarters of the patrol vehicle before each deployment. Total cost for the signs was about \$50.

NUMBERS OF VEHICLES STOPPED

A contact record form was maintained for all 72 of the checkpoint nights conducted as part of the research project. A contact was recorded for every vehicle that was stopped by the contact officer to speak with the driver. Contacts were not recorded for vehicles that were waved through or around a checkpoint lane, for example, when all officers were engaged in administering FSTs or transporting suspects. Figure 15 presented the numbers of vehicles contacted during the nine-month duration of the experimental period. Table 12 summarizes the data presented in Figure 15, to permit comparisons among the sites. The table provides the total number of contacts by site, grouped for the first and second halves of the programs; totals for the programs (i.e., all 18 checkpoints), and for all programs combined are also provided. Table 12 shows that more than 29,000 vehicles were stopped at the 72 checkpoints conducted for this project, for an average of 406 contacts per checkpoint. The effects of mobility and staffing level on vehicles contacted were addressed in the previous section of this report.

TABLE 12
 SUMMARY OF VEHICLE CONTACTS MADE
 BY THE CHECKPOINT PROGRAMS

Program/ Site No.	City	Program Description	Contacts First Half	Contacts Second Half	Total Contacts
1	Modesto	High Staffing/Low Mobility	3,612	4,873	8,485
2	Santa Rosa	High Staffing/High Mobility	4,192	5,903	10,095
3	Ventura	Low Staffing/High Mobility	2,868	3,044	5,912
4	Visalia	Low Staffing/Low Mobility	2,367	2,402	4,769
Total contacts from all four checkpoint programs			13,039	16,222	29,261

AVOIDANCE OF SOBRIETY CHECKPOINTS

One of the guidelines established by the courts regarding the conduct of sobriety checkpoints is that motorists must have the opportunity to turn from the lane of traffic to avoid entering a checkpoint lane. This judicial guideline can be satisfied by establishing the checkpoint lane just beyond the intersection of a small cross-street. Appropriate signage and cones are used to advise motorists of the checkpoint and to define the checkpoint lane. If a checkpoint geometry is properly designed, unimpaired drivers will be able to turn prior to entering the lane, but impaired drivers will probably experience some difficulty with the maneuver. If an attempt to avoid the checkpoint results in an unsafe or illegal turn, officers may stop the vehicle for further scrutiny. In practice, however, some motorists who perform their turns legally are followed by an officer for a short distance. If evidence of driver impairment is exhibited within a block or so, an enforcement stop is usually made.

The officers participating in the current study reported during interviews and debriefings that very few motorists were DWI who appeared to turn legally to avoid a checkpoint. Most had a legitimate reason for turning (i.e., they actually needed to turn somewhere in the vicinity), but others avoided the checkpoint because they had vehicle defects, outstanding warrants, a suspended license, or because they were undocumented aliens (as indicated by subsequent interviews by police). In other words, very few legal turns resulted in DWI arrests when the drivers were pursued; illegal turns, however, tended to indicate a dramatic exception to this pattern. For example, the teenage son of the county sheriff made an illegal turn to avoid a checkpoint in one of the communities; he was pursued and ultimately arrested for DWI. And, in another program a motorist made an illegal u-turn to avoid a checkpoint and fled at a high rate of speed. The vehicle was pursued by a chase motorcycle and the driver was arrested; when the driver's record was transmitted to the field it was obvious why he had fled to avoid police contact: he was operating his vehicle with a suspended license and had five prior DWI arrests.

Officers reported that there were more attempts to avoid the checkpoints later, rather than, earlier in the programs (i.e., as public awareness of the programs increased). Most checkpoints had sufficient staff to permit one of the officers to abandon his or her post to pursue a motorist who had turned to avoid a checkpoint; the high staffing level programs actually had officers assigned to the role of chase vehicle (usually a motorcycle, but sometimes it was the traffic sergeant). An inability to pursue the occasional turning motorist was only evident at the low staffing level checkpoints when all officers were engaged in administering FSTs or transporting suspects.

ACCEPTANCE OF SPECIAL ENFORCEMENT BY POLICE OFFICERS

Generally, the officers in the four participating checkpoint communities began their programs unconvinced of the merits of a general deterrence approach to DWI. All, however, were willing to give their programs a fair trial, and all of the personnel were pleased with their new checkpoint trailers and equipment sets (each department

customized its trailer to match the department's patrol vehicles, equipping the trailers, variously, with breath testing devices, mobile data terminals, light bars, heaters, etc.). Most of the officers' skepticism about the merits of their programs had essentially vanished by about the seventh checkpoint conducted by each of the departments. By the seventh checkpoint, participating officers reported to the research team that they had personally observed sufficient evidence to convince them that the programs were worthwhile. For example, by the sixth or seventh checkpoint officers began seeing a substantial increase in the numbers of designated drivers: A carload of rowdy people would drive into the checkpoint lane, and the contact officer would approach the vehicle, eagerly expecting an easy DWI--only to find a sober designated driver who was aware of the checkpoint program. These experiences, reported anecdotally, developed into a pattern that convinced even the most skeptical officers that their programs were having a positive effect.

Further evidence of checkpoint effectiveness was provided when DWI arrests were made of drivers who otherwise would not have been detected. For example, several experienced drinkers were arrested at checkpoints, even though their driving exhibited no signs of impairment, and they passed all FSTs except the horizontal gaze nystagmus test; these drivers would have most likely remained undetected by routine patrols, but when contacted at a checkpoint, the alcohol on their breath provided probable cause for further scrutiny. Officers were further encouraged by the large number of ancillary arrests made at the checkpoints. For example, the Modesto PD made or issued 54 arrests and citations at their checkpoints, in addition to the 41 DWI arrests (e.g., concealed weapons, suspended licenses, stolen vehicles, parole violations); these ancillary arrests were made even though officers asked to see the licenses only of those who exhibited behaviors indicative of DWI or some other offense.

Officers were further convinced of the merit of checkpoints by subjective factors. In particular, it must be understood that many police officers develop a world view that separates society into two categories: 1) law enforcement personnel, and 2) suspects. This perspective is shaped by the structural relationship of officers to society; that is, most of an officer's contacts with the public are made when enforcing a law, consequently, most of the time the person contacted has done something illegal, is unhappy about getting caught, and is likely to express that displeasure to the officer. Officers who have other responsibilities, like education or media liaison, can avoid the trap of restricted perspective by frequent interaction with civilians in a non-enforcement context; but, most officers rarely have these opportunities. During the checkpoints, however, officers could experience several hundred non-enforcement civilian contacts in a single night. More important, officers were frequently informed by motorists that they were sincerely grateful for the officers' special enforcement efforts; this is an unusual experience for law enforcement officers who are accustomed to complaints, hostility, and worse, in their contacts with the public.

Finally, officers found sobriety checkpoints to be an enjoyable diversion from their routine operations. After the initial apprehension about implementing a new program wore off, the checkpoints were enjoyed by the officers as unusual opportunities to work together as a team and with support volunteers from their community, rather than as individuals on patrol. And, although safety concerns and the serious purpose of the checkpoints was always kept in mind, there were many occasions, particularly during low traffic periods, when the participating officers engaged in the kind of joking behavior that contributes to camaraderie and *esprit de corps*.

The officers who participated in the special roving patrol program were highly motivated to make DWI arrests. The roving patrol officers adopted the mentality of the hunter in search of game; they were never disappointed in their quest because the officers are skillful in detecting driver impairment and there appears to be a seemingly inexhaustible supply of impaired drivers on the road. Most of the roving patrol officers were convinced that the bulk of the DWI problem rests with the problem drinker, and problem drinkers are not easily deterred from driving while impaired by alcohol. It is further believed that problem drinkers are more likely to become aware of checkpoints than the general public, in order to avoid them. Many of the roving patrol officers firmly believe that the only solution to the problem drinker issue is to remove their opportunities for driving by searching for them, arresting them, and sending them to jail.

CHAPTER 4: IMPLICATIONS

Discussions of the implications of the primary study results are presented under the categories listed below.

- Effects of checkpoint staffing level and mobility,
- Implications of the DMV survey of awareness and perceived risk,
- Implications of the effects of the experimental programs on measures of traffic safety,
- Implications of administrative factors, and
- Conclusions.

EFFECTS OF CHECKPOINT STAFFING LEVEL AND MOBILITY

The two checkpoint programs staffed by fewer officers achieved significantly higher levels of public awareness than the high staffing checkpoints. This effect might be attributable to the fact that the low staffing approach was considered more “experimental” and, thus more newsworthy than the more traditional high staffing approach. Mobility, however, had no effect on the mean level of program awareness.

The primary operational differences between the high and low staffing level configurations was that the high staffing level checkpoints could make significantly more vehicle contacts, and significantly more DWI arrests during the early months of a program. The differential arrest rate disappeared during the second half of the programs, due it is believed, to the deterrence effects of the checkpoint programs. The low staffing level approach, however, places additional burdens of vigilance and safety concerns on the officer in charge (OIC), compared to lower supervisor workloads under a high staffing level configuration. It is important to note that officer safety was the principal consideration when selecting checkpoint locations within a city and when defining an appropriate checkpoint geometry for a specific location (e.g., visibility, conspicuity, traffic volumes and speed, etc.). No injuries were sustained by participants during the 72 checkpoints that were conducted as part of this study.

It was found that during the first half of the programs there was no difference in the numbers of DWI arrests made between high and low mobility configurations, but during the second half significantly more arrests were made at the low mobility checkpoints. Mobility did not significantly affect the numbers of vehicles contacted.

Overall, there were no specific effects of the staffing level or mobility options on the objective measures of traffic safety. For example, Visalia (Low Staffing/Low Mobility) experienced a significant decline in the proportion of all crashes that were alcohol-involved on the basis of the paired samples test, and Ventura (Low Staffing/High

Mobility) experienced a 32 percent decline in that measure, which approached significance. But, the more sensitive ITS analyses measured significant declines in the numbers of alcohol-involved crashes for *all* of the programs. In short, this study did not find any advantage, in terms of program effects on alcohol-involved crashes, of either high or low staffing levels or high or low mobility of the checkpoints. Decisions about an optimum approach to these variables could, therefore, be made on the basis of other concerns, such as the potential of a program to generate public awareness, or perhaps more important, on the basis of administrative factors.

There is one relevant issue that has not yet been addressed, and that is the issue of checkpoint location criteria. As was described in Chapter 2, three of the checkpoint programs used prior DWI crash and arrest history as the criteria for selecting locations; candidate sites were then evaluated for safety concerns to identify specific locations and checkpoint geometries. The Visalia program was assigned the additional criterion of high visibility, despite the possibility of this factor confounding the experimental design. The Visalia Police Department began applying the additional criterion at about the mid-point of their program. The only effect of this change in procedure that can be measured is a substantial increase in the number of vehicles contacted when the checkpoints were set-up in the busiest area of the city. Recall that Visalia's was the only program to obtain a significant decline in alcohol-involved injury and fatal crashes on the very stringent paired samples test. The significant effect in Visalia supports the hypothesis that checkpoint visibility is a factor in program effectiveness. This result is intriguing, but additional data are required to confirm the link between a high-visibility approach and significant declines in alcohol-involved crashes.

OVERALL EFFECTS OF CHECKPOINT PROGRAMS

The statistically significant reduction in alcohol involved crashes at the checkpoint sites, compared to the absence of a corresponding reduction at the comparison site, provides further evidence of the ability of checkpoint programs to reduce alcohol impaired driving. Indeed, in terms of the critical outcome measure of alcohol involved crashes, the results of this study support the checkpoint programs unequivocally.

IMPLICATIONS OF THE DMV SURVEY

Table 13 summarizes some of the results of the DMV survey that were reported in the previous chapter. The table shows that public awareness of the experimental programs increased significantly in all communities, except Visalia, which approached significance ($p=0.055$). The significant change in public awareness in Ontario, however, should not obscure an important difference between the roving patrol program and the checkpoint programs that is evident from Figure 5, in the previous chapter. The program awareness levels illustrated in Figure 5 reflect a fundamental difference between roving patrols and checkpoints. In this regard, awareness of the roving patrol program peaked at about 40 percent soon after the kick-off press conference and ended the program at 30 percent. In contrast, public awareness of each of the four checkpoint programs achieved 80 percent; large numbers of respondents to the survey even reported

baseline awareness of checkpoint programs that did not exist. Part of the difference in awareness levels, between roving patrols and checkpoints, might be attributable to difficulties the Ontario program support committee had in obtaining free publicity. In particular, local newspapers did not print as many articles about the roving patrol program as were generally published about the checkpoint programs, and the newspapers did not publish the press releases issued by the Ontario Police Department about the special patrols; however, press releases about impending sobriety checkpoints were routinely published by newspapers in the checkpoint communities.¹¹ These results suggest that public perceptions of sobriety checkpoints are fundamentally different from perceptions of special roving patrols. Checkpoints are apparently considered to be more memorable, and by the actions of news personnel, more newsworthy, than roving patrols or general DWI enforcement.

TABLE 13
 SUMMARY OF PROGRAM EFFECTS
 SURVEY RESULTS

Measure	Modesto	Santa Rosa	Ventura	Visalia	Ontario	Comparison
Public Awareness	Increased Significantly	Increased Significantly	Increased Significantly	Approached Significance	Increased Significantly	No change
Personal Observation of Special Enforcement	Increased Significantly	Approached Significance	Increased	Increased	Increased	No Change
Personal Experience with Special Enforcement	Increased Significantly	Increased	Increased	Increased	Increased	No Change
Perceived Risk of Being Stopped for DWI	Increased Significantly	No Change	No Change	Approached Significance	No Change	No Change
Self-Report of Change in Drinking/Driving Behavior	No Change					
Public Support for Program	Increased Significantly	Approached Significance	Increased	Approached Significance	Increased Significantly	Increased Significantly

Table 13, and Tables 5 and 6 in the previous chapter, also show that many community residents personally observed the local special enforcement activities or experienced the program first-hand. Clearly, some of the increases in public awareness of the programs are attributable to the inherently high profile of the special enforcement techniques. This suggests that general deterrence programs should be designed to take maximum advantage of the free publicity obtained from high-visibility operations. That is, the use of clearly-marked checkpoint trailers and specially-marked roving patrol vehicles, as well as strategic checkpoint and vehicle placement in a community, can contribute to elevating public awareness and achieving the general deterrence objectives of a program.

According to the theory of general deterrence, described in the Introduction to this report, an increase in public awareness of an enforcement program should lead to an increase in the perceived risk of detection and arrest. But, very little change in perceived risk was detected by the survey that could be attributed to the experimental programs; only Modesto experienced a significant increase in perceived risk, while Visalia approached significance. Table 13 and Figure 7, in the previous chapter, show that perceived risk is either the weak link in the causal chain leading to deterrence, or that the measures used were insensitive to this issue.

An alternative hypothesis is that the public's perceived risk during the baseline period was already unrealistically high, resulting in a ceiling effect. In particular, the perceived risk of being stopped while DWI averaged around 45 percent in the six communities, and the perceived risk of arrest if stopped was about 70 percent. The total risk of DWI apprehension is obtained by multiplying the two numbers (i.e., $.45 \times .70 = .32$); that is, according to the survey results, the public believes the risk of being stopped and arrested for DWI, if impaired, is approximately 32 percent, or one in three. In truth, the risk is much lower. Professor Borkenstein estimated the rate nearly 20 years ago as one DWI arrest for every 2,000 trips at BACs greater than .10; more recently, Ross (1992) estimated the risk to be as low as one in 5,000 miles driven. The public perceptions of risk of DWI arrest measured during the survey are, therefore, three orders of magnitude greater than the average of these more objective estimates. Clearly, general deterrence is a theory of perceptions, rather than realities.

Table 13 also shows that there is considerable public support for special DWI enforcement, in general (70 to 80 percent approval during baseline period), that the support increases significantly following program implementation (80 to 90 percent at the end of the programs), and that the special enforcement efforts are perceived as contributing to a solution to the DWI problem. These results are consistent with those of other studies of special DWI enforcement.

IMPLICATIONS OF THE MEASURES OF TRAFFIC SAFETY

The context in which the current study was conducted must be understood to properly interpret the results. In particular, it must be recognized that the study has been conducted following more than a decade of national efforts to encourage the conduct of sobriety checkpoints; several organizations with traffic safety missions, in addition to NHTSA and many state agencies, have promoted the use of checkpoints among law enforcement. But more important, sobriety checkpoints represent only one of many DWI countermeasure strategies that have been developed and implemented since NHTSA's inception in 1970. The programs share the common goal of reducing the incidence of DWI crashes. And, the programs have been effective in elevating public awareness of the DWI problem, in changing drinking and driving patterns by increased effectiveness of enforcement (e.g., DWI cues), and by providing drinking drivers with an alternative to their customary behavior (i.e., designated driver programs).

Perhaps equally important, the DWI countermeasure programs have evolved at a special point in history; that is, a demographic phenomenon known as the “baby boomer generation,” an enormous bulge in the population, is in the process of reaching middle age. Due to the disproportionate effects of this group on all aspects of society, it is believed that some of the improvements in traffic safety measures that have been experienced during the past decade are attributable to a decline in risk-taking behavior by aging baby boomers.¹² As individuals mature, they (presumably) become more reasonable; that is, their judgment is better than it was when they were younger, and they are now more likely and better equipped to weigh the consequences of their actions than they were just ten years ago. This maturation of a large portion of the population has provided fertile ground for the implementation of the many DWI countermeasure programs and strategies that have been developed in recent years. It is important to understand that the current study has been conducted at the intersection of these two powerful and important trends.

Alcohol-involved crashes was identified as the primary figure of merit for evaluating the overall effectiveness of the experimental programs. Table 14 presents a summary of the results obtained by subjecting the crash data collected during the study to statistical tests. The table, derived from Figure 12 and Tables 7 through 9B, reveals that the roving patrol and checkpoint programs significantly reduced the incidence of alcohol-involved injury and fatal crashes in the experimental communities. It is also revealed that these changes were experienced within the context of a general decline in alcohol-involved crashes throughout the state and in the comparison community.

TABLE 14
SUMMARY OF PROGRAM EFFECTS
PROGRAM IMPACTS

Measure	Modesto	Santa Rosa	Ventura	Visalia	Ontario	Comparison
Alcohol-Involved Crashes Proportions/Paired Samples	Decreased	Decreased	Decreased	Decreased Significantly	Decreased	Decreased
Alcohol-Involved Crashes Numbers/Paired Samples	Decreased	Decreased	Decreased	Decreased Significantly	Decreased	Decreased
Alcohol-Involved Crashes All checkpoint programs/PS	Decreased Significantly	Decreased Significantly	Decreased Significantly	Decreased Significantly	Decreased	Decreased
Alcohol-Involved Crashes Numbers/ITS	Decreased Significantly	N/A	Decreased Significantly	Decreased Significantly	Decreased Significantly	Decreased Significantly
Non-Alcohol-Involved Crashes Numbers/ITS	Increased Significantly	N/A	Decreased	Increased	Decreased	Decreased Approached Significance

Paired samples tests performed on proportions and actual numbers of alcohol-involved crashes found significant effects in Visalia, individually, and in all the checkpoint programs when data were combined to compare to Ontario and Santa Barbara,

and to obtain larger numbers for analysis. The interrupted time series analysis, however, found a significant effect in *all* of the sites tested, including the comparison community. Although Santa Barbara performed as a "perfect control" in all other measures (i.e., no change), the incidence of all crashes, including those that did not involve alcohol, declined substantially in Santa Barbara during the experimental period; alcohol-involved crashes declined significantly and the decline in non-alcohol-involved crashes approached significance ($p=0.07$). It is important to note that while the comparison community's *non*-alcohol-involved crashes declined by an average of more than ten percent during the program, only two of the experimental communities experienced declines (-3.9 and -7.4 for Ontario and Ventura, respectively), and the numbers actually increased in the remaining two experimental communities (+3.5 and +12.9 percent in Visalia and Modesto, respectively--Modesto's increase in non-alcohol-involved crashes is statistically significant). What this means is that the significant decline in alcohol-involved crashes found in the comparison community is offset by the nearly significant and atypical decline in *all* crashes experienced there. The significant decline found in the experimental communities, however, are limited to alcohol-involved crashes and are attributable to the general deterrence programs. This was confirmed by logistic regression analysis, as noted above.

DWI ARRESTS

Figures 13 through 16 presented the numbers of DWI arrests made by the special enforcement programs and illustrated an overall decline in arrest rates as the checkpoint programs progressed. Analyses found that significantly more arrests were made during the first than the second halves of the checkpoint programs. Fewer arrests during the second nine checkpoints in the programs, and the substantial decline in arrest rate, could have occurred as a function of deterrence effects, or in response to drinking drivers learning to avoid the check-points. The anecdotal accounts of increasing numbers of designated drivers supports the former explanation, but do not exclude the very real possibility that some motorists used their knowledge of impending checkpoints to avoid arrest. A program had the intended result if those drinking drivers selected alternative transportation; further, the program was effective in elevating awareness and discussion of DWI enforcement among those at greatest risk, even if some drinking drivers used their knowledge of checkpoints to avoid arrest by selecting alternate routes. In other words, the fewer DWI arrests during the second half of the checkpoint programs can only be interpreted as an indicator of program effectiveness.

If making a large number of DWI arrests is an objective of a program, Figure 14 clearly suggests that roving patrols would be the preferred option among the five experimental programs evaluated. Officers of the Ontario RIDE Program made a total of 96 DWI arrests during their 648 patrol hours, compared to an average of 35 arrests by the checkpoint programs. The roving patrols could have made many additional arrests if the officers' paperwork burden associated with each arrest were relieved.¹³

The difference between specific and general deterrence was described in the Introduction to this report. In short, while a general deterrence approach attempts to

deter individuals from engaging in illegal acts, specific deterrence attempts to remove the possibility of the behavior, in part, by removing the individual from the sources of temptation. There has been a growing realization during recent years that a major portion of the DWI problem is attributable to the "hard core drinking driver" (Simpson & Mayhew, 1992). These experienced drinkers tend to have well-established behavioral patterns that are resistant to change or deterrence, as mentioned earlier in this report. Thus, specific deterrence strategies, like roving patrols that "hunt down" DWIs, might be the optimum means for targeting the hard core drinking driver.¹⁴

DWI CONVICTIONS

All 236 of the arrests made by the five experimental programs resulted in convictions. The implication of this result is that the courts are increasingly favorable to innovative special DWI enforcement efforts.

IMPLICATIONS OF THE EVALUATION OF ADMINISTRATIVE FACTORS

Administrative Factors include labor and equipment costs, numbers of vehicles contacted, avoidance of checkpoints, and acceptance of special methods by law enforcement personnel. Also discussed as an administrative factor is the benefit to society that results from prevented crashes. Implications of the administrative issues are addressed in the following paragraphs.

LABOR COSTS

The labor cost of a checkpoint program is determined by the staffing level. The labor costs of the experimental programs, presented previously in Table 11, ranged from a low of \$15,336 for Ventura's Low Staffing/High Mobility checkpoint program to a high of \$43,848 for Modesto's High Staffing/Low Mobility approach; these two programs represent the extremes in both labor cost and checkpoint configuration. Because all of the programs achieved statistically significant declines in the incidence of alcohol-involved crashes in the experimental communities, decision processes to select what might be the most appropriate program for a specific community can begin with labor cost. In this regard, the implications of this study are that effective sobriety checkpoints can be conducted by as few as three sworn officers and a supervisor.¹⁵

EQUIPMENT COSTS

A set of dedicated equipment is necessary to conduct a program of frequent sobriety checkpoints. If only occasional checkpoints are to be conducted, a truck and equipment might be borrowed from municipal public works departments, but special "checkpoint ahead" signs would still need to be purchased; borrowing equipment to conduct checkpoints is just too time-consuming if it is a regular activity. Further, dedicated equipment can be used for other purposes, such as special events and major crash or crime investigations. Perhaps most important, a clearly-marked trailer to store and transport the equipment helps publicize the checkpoint program. During the current study, it was found that a checkpoint trailer set-up at a county fair, displayed in a

parade, or just parked in the police parking lot, can contribute greatly to public awareness of a local checkpoint program.

Checkpoint equipment sets can be purchased from commercial vendors for about \$11,000. Police departments can save some of this expense by either building or converting a trailer to checkpoint use, then purchasing the other equipment items separately. The designs of the commercially-available checkpoint trailers, however, include features specific to checkpoint operation (e.g., integrated light stands, racks for signs, cones, and cables, etc.). It is also recommended that covered trailers be used rather than open trailers; covered trailers are more versatile, they provide a refuge from harsh weather, and the equipment is less likely to be stolen from a closed trailer when in storage.

AVOIDANCE OF CHECKPOINTS

It was reported anecdotally that more vehicles turned to avoid passing through a checkpoint during the later rather than earlier months of the programs. The implication of this pattern is that it might be necessary to deploy chase vehicles, at least occasionally, after several months of frequent checkpoints. Alternatively, routine patrol vehicles might be assigned a stand-by role to pursue the most egregious offenders.

ACCEPTANCE OF SPECIAL METHODS BY LAW ENFORCEMENT

Most law enforcement officers are vigorous in their enforcement of DWI laws, not completely because they are sworn to uphold the law, but because they are frequently required to witness the bloody consequences of drinking and driving. Some officers have personal reasons for their pursuit of DWIs. For example, a sergeant in one of the experimental communities described how he had avoided making DWI arrests because of the paperwork involved, until his patrol car was rear-ended by a drunk driver, crushing his legs between two vehicles; now he writes as many DWIs as he can in the hope that he might prevent an alcohol-involved crash. Similarly, a collision investigator from another department described a crash in his community in which both vehicles were operated by drunk drivers; the carnage was so great at the scene that the responding fire and paramedic personnel required professional counseling afterward. All of the officers involved in the investigation became relentless enforcers of DWI laws as a consequence of the experience.

It was the experience of the research team that all participating officers were willing to give sobriety checkpoints a fair evaluation, despite any personal misgivings they might have had. As reported earlier, most of the officers in the four checkpoint communities had become firmly convinced of the merits of their general deterrence methods by the conclusion of their programs; and all had enjoyed their checkpoint experiences. The roving patrol officers were equally supportive of their more traditional approach to DWI deterrence, perceiving their mission to be that of catching drunk drivers before they crash.

The relevant implication of the high degree of officer acceptance of the experimental programs is that law enforcement officers will attempt any reasonable special DWI enforcement technique that their management permits, because most officers are sincerely devoted to reducing the incidence of alcohol-involved crashes. On the basis of the current experience, officers are likely to give the innovative program their full effort and evaluate it fairly.

SAVINGS FROM AVOIDED CRASHES

Statistical analyses performed on the data collected during the study have indicated significant declines in alcohol-involved crashes in the comparison and experimental communities; that is, the tests revealed that there were significantly fewer alcohol-involved crashes in the communities during the nine-month program period, than in the same nine months one year earlier. However, the exact number of avoided crashes, attributable to the programs, remains a question. At least a partial answer is required.

Table 8 presented the change in numbers of crashes experienced during the program period from the corresponding months one year earlier; Table 7 provided the percentage changes. Table 7 shows that, on average, the four checkpoint communities experienced a 28 percent decline in alcohol-involved crashes during the program period, while the average decline in all communities of the state was eight percent, or roughly one fourth of the decline in the experimental communities. Table 8 shows that there were 66 fewer crashes in the four checkpoint communities during the programs, compared to the number of crashes that occurred in the corresponding period one year earlier. On the basis of the statewide comparison, it is estimated that as many as three-fourths, or 50 of those avoided crashes in the checkpoint communities, might be attributable to the checkpoint programs and accompanying publicity.

The California Highway Patrol's annual SWITRS report presents estimates of the financial costs to society that result from traffic collisions of various severity. The estimates published in the 1991 report are included in Table 15, along with the proportions of all crashes in the state from each category of crash severity. In the table, each proportion has been multiplied by 50, the number of avoided crashes attributable to the experimental programs; the product of those calculations were then multiplied by the estimated cost per crash (per category) to obtain an estimate of the overall savings to society that was obtained as a result of the general deterrence effects of the programs. The combined savings from all four checkpoint programs was nearly three and one-half million dollars.

Blincoe and Faigin (1990) have also estimated the costs associated with traffic collisions for NHTSA, but on a national basis. NHTSA's national estimates, and the associated calculations, are presented in Table 16. NHTSA's national estimates of crash costs are much lower than those in California where savings were actually obtained in the current study. For example, NHTSA estimates that the cost to society of a fatality, nationwide, is only about \$700,000, compared to \$2,700,000 in California. Cost estimates include medical expenses, legal fees, insurance costs, lost productivity, etc.

TABLE 15
ESTIMATED SAVINGS TO SOCIETY
RESULTING FROM THE FOUR SOBRIETY CHECKPOINT PROGRAMS

Crash Severity	Proportion of all Calif. Crashes	Number of Crashes*	Savings per Crash**	Savings
Fatality	.013	0.65	\$2,759,000	\$1,793,350
Severe injury	.046	2.30	196,000	450,800
Other visible	.326	16.30	38,000	619,400
Complaint of pain	.615	30.75	20,000	615,000
TOTAL SAVINGS TO SOCIETY				\$3,478,550
* Out of the 50 avoided crashes attributable to the four checkpoint programs				
**According to CHP and Urban Institute estimates				

TABLE 16
NHTSA'S ESTIMATED SAVINGS TO SOCIETY
RESULTING FROM THE FOUR SOBRIETY CHECKPOINT PROGRAMS

Crash Severity	Proportion of all Injury Crashes	Number of Crashes*	Savings per Crash**	Savings
Fatality	.01	0.50	\$702,281	\$351,141
MAIS 5	.002	.10	589,055	58,906
MAIS 4	.004	.20	158,531	31,706
MAIS 3	.03	1.50	84,189	126,284
MAIS 2	.10	5.00	26,807	134,035
MAIS 1	.85	42.50	6,145	261,163
TOTAL SAVINGS TO SOCIETY				\$963,235
* Out of the 50 avoided crashes attributable to the four checkpoint programs				
**According to NHTSA estimates				
MAIS = Maximum Abbreviated Injury Scale				

It is the nature of traffic safety research that prevented crashes can never be identified with certainty, because they never happened; whether there were 50, 25, or some other number of crashes prevented by the programs cannot be determined. But the statistical tests applied to the data in the current study clearly show that there were

significantly fewer crashes in the experimental communities following program implementation, and that the declines did not occur by chance. It is equally clear that very few prevented crashes are required to achieve a savings to society that more than compensates for the program costs.

CONCLUSIONS

This report has documented the planning, conduct, and results of a research project with important implications. The following summary of study results provides useful information to traffic safety experts, law enforcement managers, and others responsible for public policy decisions.

- No significant effects of the staffing variable were measured. The low staffing level approach (when appropriately used) is effective in generating public awareness and it is more cost-effective than a high staffing level configuration.
- No significant effects of the mobility variable were measured. This may be attributable to the limited range of mobility implemented in this study. Indeed, there remains compelling logic to support the hypothesis that checkpoint mobility contributes to uncertainty in the minds of the drinking driver.
- The overall effectiveness of sobriety checkpoint programs that are supported by vigorous public information campaigns was reaffirmed.
- The data suggest that checkpoint programs could be more effective in reducing DWI than roving patrols of equivalent effort. Further research is needed to answer this question.
- The courts and law enforcement agency policies have determined that checkpoint locations should be selected on the basis of DWI activity and officer safety. The data suggest that checkpoint locations should probably also emphasize visibility, as well as DWI activity and safety, to contribute to public awareness.
- A committee of concerned local citizens and police officials can be organized to develop and implement a vigorous public information and education program, direct this effort, and provide other assistance with the program.
- Newspapers were found to be the greatest source of public awareness of special enforcement programs, but the program activities must be newsworthy to receive news coverage. Any effort to enhance the "newsworthiness" of a program or activity will contribute to free publicity, and ultimately, to public awareness.

NOTES

1. It is the concern for protecting individual rights that has made the manner in which sobriety checkpoints are conducted in the US uniquely American. In this regard, the states that have permitted checkpoints have all imposed guidelines for their conduct; the guidelines have been established to mitigate the intrusion of checkpoints on the Fourth Amendment protections against arbitrary searches and seizures. Specifically, the courts have required law enforcement agencies to publicize impending checkpoints and to surround them with the *indicia* of legitimate authority (e.g., marked patrol vehicles, uniformed personnel, etc.) to assure law abiding citizens that they are being stopped by actual law enforcement officers and for lawful reasons. Further expression of this "American approach" has been the avoidance of formal breath testing of all motorists in favor of less intrusive methods; in particular, officers greet each motorist in a friendly manner then unobtrusively scrutinize the motorist's behavior for signs of alcohol-impairment during the brief exchange. Those whose behavior, or odor of alcohol, indicate possible impairment are retained for further scrutiny (using standard field sobriety testing techniques, and possibly preliminary or evidentiary breath testing); all others are advised politely, and usually with a smile, to drive safely. But the key feature of this uniquely American approach is that all motorists are treated equally at a sobriety checkpoint; that is, either all motorists are stopped and scrutinized, or a predetermined interval of vehicles is stopped (e.g., every other, third, or fifth vehicle, etc.) when traffic volumes would cause more than a few minutes delay if all vehicles were to be stopped. In other words, at no time is the decision to stop a specific vehicle left to an officer's discretion, because discretionary selection of which motorists to stop would permit the possible exercise of individual biases and prejudices. This egalitarian approach, however, places considerable burdens on officers' abilities to detect impairment during a brief exchange of words. But, law enforcement officers pride themselves on their observational abilities and many become quite skillful at determining whether a motorist has recently consumed alcohol, and most are able to detect alcohol-impairment during these encounters.
2. The most important site-selection criterion was that the communities selected for participation in the study must not have previously conducted a checkpoint program. It was recognized that occasional participation by a municipal department in a sobriety checkpoint operated in their area by a state agency would not constitute conduct of a checkpoint *program*. Candidates for the comparison site, however, could not conduct or participate in a sobriety checkpoint during the duration of the study period.
3. Population size was identified as a site-selection criterion primarily as a means to ensure that local DWI statistics (i.e., alcohol-involved crashes) are sufficiently large that it will be possible to measure changes in those statistics as results of the

experimental conditions. Larger DWI numbers (presumably generated by larger populations) would facilitate the calculation of statistical differences attributable to the various checkpoint programs. In other words, assuming that the experimental programs are effective in deterring DWI activity, larger baseline numbers of DWI arrests and alcohol-involved crashes would permit the calculation of significance of measured differences, if any, among and between the programs.

Selecting an appropriate population size, as a site-selection criterion, represents a trade-off between higher data rates and greater selectivity of communities. For example, there are more than a dozen communities in California with populations in the 200,000 to 500,000 range; there are 28 communities with populations between 100,000 and 200,000; and, there are more than 70 communities with populations between 50,000 and 100,000. In addition to allowing greater selectivity of sites, a lower population criterion would probably increase the (perceived) applicability of the research results, because there are many more smaller communities than larger communities in the US. In this regard, our preliminary research indicated that the managers of smaller police departments express the greatest interest in learning about innovative--primarily less-costly--checkpoint configurations.

Based on interviews with police managers, it was estimated that a resident population of approximately 100,000 persons generates about 600 DWI arrests and at least 100 alcohol-involved injury crashes annually. Those numbers would be sufficient to measure changes in impaired vehicle operation patterns, or incidence, resulting from the experimental general deterrence programs.

It was understood that while DWI arrests in a community might be useful for within group measurement of effects during the course of a program, the number of arrests made is the product of opportunity (the number of impaired motorists on the road) and enforcement effort. Better indicators of DWI activity would be measures that are independent of law enforcement effort, such as alcohol-involved crashes, nighttime crashes, and nighttime hit and run offenses (better because it is prevention of crashes that is the ultimate objective of DWI countermeasures, and crashes are, for the most part, independent of enforcement activity).

In short, it was determined that the study would benefit in several ways from a flexible application of the population criterion for site selection. In particular, there are more than 15,000 municipal police departments in the United States; the vast majority of those departments serve smaller rather than larger populations. Smaller communities, therefore, represent a much larger constituency for the results of the study than do larger communities; and, the leaders of smaller communities might perceive a sobriety checkpoint program as more feasible or appropriate for them if the program were developed in a community similar to theirs in size and resources. But smaller communities might not generate sufficiently high DWI statistics to permit statistical evaluation of program effects. The solution was to focus more on a

common denominator of local DWI activity (proportion of all injury crashes that involved alcohol) than resident population as the population-related criterion of interest; expressing the key measures of DWI activity as proportions permits the comparison of communities of different sizes. This approach permitted the research team to increase selectivity (i.e., site-selection options and possibilities) while retaining analytical capability.

4. The first step in the site-selection process was to compare candidate states according to the numbers of cities that meet general selection criteria. Four candidate states were selected, primarily on the basis of state population. Those states are listed in the following table along with state populations and the numbers of cities within the states in two population categories.

State	State Population	Cities 100-200K	Cities 201-500K
California	30,000,000	36	7
New York	18,000,000	2	3
Texas	17,000,000	12	4
Ohio	11,000,000	1	3

In addition to the small number of candidate sites in New York, northern winters prevent the conduct of sobriety checkpoints for several months of the year. In the winters some agencies switch to roving patrols, according to representatives of the New York State Police.

Texas has a dozen communities within the established population range, but several of the cities are pairs (e.g., Midland-Odessa), and others are dominated by the metropolitan cities of Texas. Some of the cities, however, have excellent isolation and independent media characteristics (as one might expect from the wide-open spaces). In addition, the Texas Highway Patrol had a policy against checkpoints while they awaited enabling legislation. Municipal police departments could have conducted checkpoints but would have done so without state sanction.

5. For example, Sergeant Keith Adams of the Redding, California, Police Department was among the DWI experts who contributed to the development of NHTSA's guidelines for conducting sobriety checkpoints (*The Use of Sobriety Checkpoints for Impaired Driving Enforcement*, 1990). But Redding, with a population of 60,000, did not have a police force large enough to conduct checkpoints with the traditional complement of a dozen or more officers. So, Sergeant Adams began experimenting with fewer officers. They found that by surveying the checkpoint locations in

advance, marking the streets for sign, cone, and equipment placement, and obtaining their own equipment for the purpose, they could conduct checkpoints with as few as three officers. Sergeant Adams conducted 39 low staffing level checkpoints in the first year of the experiment, making as many as 19 DWI arrests in a single night, and conducting checkpoints on three successive evenings during the Labor Day weekend. The West Sacramento Police Department conducted similar experiments as part of a California Office of Traffic Safety program. The DWI coordinators of these departments discovered that, with the proper equipment and preparation, checkpoints can be set up in fewer than 15 minutes--a complete move across town requires less than a half hour with only three officers.

6. Varying the checkpoint location criterion was included in the original NHTSA solicitation and required in the Implementation Plan, but in the manner we implemented it, we are not overly concerned that the effects of other variables were confounded. Our attempts to resolve this problem led us to interview several subject matter experts from California and other states. We learned from the interviews that most of the experts who are responsible for selecting checkpoint locations follow approximately the same procedure. *Ingersoll v Palmer*, a California Court of Appeals decision, specifies that law enforcement agencies must base their selection of a checkpoint location on some measure of DWI activity, either DWI arrests or alcohol-involved crashes. This requirement is intended to prevent law enforcement agencies from targeting specific neighborhoods without an objective measure of cause; law enforcement agencies in states other than California operate under similar restrictions. Crash sites, however, are often found to be impractical for safety reasons (vehicle speed, visibility, absence of equipment, vehicle, and/or FST areas, etc.). But most agencies have no difficulty identifying local streets and intersections that have a relatively high incidence of DWI arrests. These locations serve as the primary candidates for checkpoint locations, but final site selection usually incorporates another level of review. The final level of review involves an evaluation of the candidate locations in terms of safety and *visibility*.

The Albuquerque Police Department had recently been commended in a NHTSA working document for the agency's exemplary DWI countermeasures program: "The Albuquerque PD has an excellent DWI enforcement program and sobriety checkpoints are an integral part of that program," from *Sobriety Checkpoint Use in the United States*. Sergeant (now Lieutenant) Raymond Schultz, formerly the DWI Coordinator of the Albuquerque Police Department, explained his location-selection procedure:

I have our traffic analyst plot all alcohol-involved traffic accidents and rate our intersections in terms of DWI hazard. This is done every three months, and I have historical data for the past three years. We also analyze the logs of DWI arrests. We combine the two measures (crashes and arrests) to identify the areas that are exhibiting the greatest DWI activity. Then we try to find a safe place to conduct the checkpoints at the high DWI-activity locations. Often we cannot safely or reasonably conduct a checkpoint at a high priority

location, but we might be able to move down the road and set up between *two* high priority areas. Then if our location is questioned in the courts we have a bullet proof rationale to support our (location-selection) decision. On holidays, however, we might select locations on the basis of visibility, because our experience indicates that the checkpoint is a better deterrent when it is highly visible--we get fewer DWIs at a highly visible site, but the checkpoint is a more effective deterrent.

Sergeant Schultz' comments are revealing and instructive. Through his description of Albuquerque's sobriety checkpoint program we developed a better understanding of the location-selection process. That is, it appears that all law enforcement managers involved in the conduct of sobriety checkpoints are concerned that adherence to established guidelines is the key to preserving law enforcement's access to this general deterrence tactic. The managers correctly believe that significant violations of the courts' guidelines, for example those concerning the selection of checkpoint locations, could result in the courts' withdrawing permission to conduct sobriety checkpoints. For this important reason, the managers with whom we have discussed the issue insist that every location decision be made on the basis of a *legally justifiable rationale*. That rationale must involve a measure of DWI activity, but the final decision is mitigated by safety, feasibility, and visibility considerations. In short, the selection of checkpoint locations by checkpoint experts is according to the following general pattern.

- Step 1: Identify high DWI activity locations,
- Step 2: Screen candidate locations for safety and logistical feasibility,
- Step 3: Select from the "short list" on the basis of visibility to the public.

In other words, it was found that checkpoint locations are selected not on the basis of DWI activity or visibility. Rather, locations are selected on the basis of DWI activity *and* visibility (and safety and feasibility, as well).

Selecting checkpoint locations on the basis of visibility alone would have exposed the study to legal criticism and provided defense attorneys with grounds for dismissing arrests made at those checkpoints. An alternative approach was to follow the general location selection pattern described above, but emphasize DWI activity in Programs 1 through 3, and emphasize visibility in Program 4.

7. The California Office of Traffic Safety (OTS) assisted in other ways than providing equipment grants to the four checkpoint programs. Prior to program implementation, Mr. Chris Murphy of OTS provided valuable information to the project director about checkpoint procedures. In addition, Mr. Arnold Trotter of OTS provided the Ontario Police Department with a \$10,000 grant to subsidize the Ontario PD's roving patrol effort. Program Manager Marilyn Sabin and Director Peter O'Rourke also provided support to the research and programmatic efforts; Mr. O'Rourke even interrupted a vacation to represent the State of California at Modesto's kick-off press conferences.

The grants provided by Cal OTS supplemented labor subsidies that were provided to the participating police departments by NHTSA; the departments received \$10,000 as partial compensation for the manager, officer, and clerical time required to conduct the checkpoint and roving patrol programs, and provide the required data to the research team. These partial labor subsidies were necessary because the study was conducted during a period of economic recession and municipal budget crises.

8. The project team has learned that the level of effort and success of each of the five publicity programs is equal to or greater than those of most NHTSA-sponsored Community Traffic Safety Programs.
9. The CHP is responsible for patrolling highways and freeways that pass through the city limits of communities. Only municipal police data were included because it was believed that crashes to which CHP might respond would disproportionately involve drivers from other areas, who were less likely than local residents to have been exposed to the publicity program.
10. The difference between sobriety checkpoints and roving DWI patrols is analogous to the difference between trapping and hunting strategies among commercial fishermen (Stuster, 1976). For example, commercial lobster fishermen, crab trappers, and most gillnetters deploy their gear in locations known for the target species, in much the same way that checkpoints are set up at locations known for DWI arrests or alcohol-involved crashes. In contrast, some fishermen adopt a hunting strategy by searching for indicators of fish by both visual and technical means, then pursuing their prey, in the same manner that roving patrol officers search for, then stop, motorists who exhibit DWI cues. While the trapping strategy is fundamentally passive and dependent upon the appearance of targets in the area, the hunting strategy is not. Hunters can increase their catch by increasing their effort with the same equipment (e.g., more time on the fishing grounds, prospecting new areas, etc.), while the means for trappers to increase their catch is to increase the amount of gear deployed. Similarly, roving patrols can increase their DWI arrest rate by increasing their effort (e.g., spending more time "on the grounds" and less time completing paperwork or performing other ancillary chores--within the same number of officer hours). But a checkpoint program could only increase its arrest rate by conducting more checkpoints (i.e., deploying more traps). If the number of traps (or checkpoints) is limited, so will "productivity" be limited. In the current study, the programs were limited to 18 checkpoints in nine months, but police budgets are the usual limiting factors.
11. Newspapers were a primary source of information about the programs in all five experimental communities. The Ontario RIDE Program Committee attempted to compensate for the lack of newspaper coverage of their program by utilizing local

cable television access programming, billboards, and extensive distribution of the Lifesaver coupons.

12. The inordinate influence that baby boomers have had on everything from politics to advertising has been described as the "tyranny of a generation." Baby boomer demographics even influence traffic safety statistics.
13. The forms that must be completed, usually by hand, for a typical DWI arrest include:
 - Citation (for vehicle code)
 - DMV Administrative Per Se Forms (2)
 - DUI Form (front and back)
 - Arrest Sheet
 - Booking Sheet
 - Property Receipt
 - Tow Report
 - DMV Blood Test Results
 - Probable Cause Declaration
 - Blood Drawn and Labels Form
 - Evidence Tags and Tests
 - Traffic Collision Form

It was not unusual for roving patrol officers to spend more than two hours processing and documenting each DWI arrest that was made.

14. For example, one of the final DWI arrests made by officers of the Ontario RIDE Program was of a 40-year old female driver who was observed weaving within a lane at 0130 hours. An enforcement stop was made and alcohol was evident on the driver's breath. She stumbled slightly as she exited her vehicle, then exclaimed, "I know you guys!" Indeed, she did. The driver had been arrested twice by one of the officers and once by the other, within the past five years. She mentioned that she expects to serve time in jail for this, her fifth DWI arrest. She also mentioned that jail is the only thing that will prevent her from drinking to excess.
15. Chris Murphy of the California Office of Traffic Safety reports that several departments have been experimenting with three-officer checkpoints, including the cities of West Sacramento and Redding.

REFERENCES

- Beccaria, C. *Essay on crimes and punishment*. Bobbs-Merrill: Indianapolis, IN, 1963 (Original work published in 1764).
- Bentham, J. *An introduction to the principles of morals and legislation*. Basil Blackwell: Oxford, England, 1948 (Original work published in 1789).
- Cameron, M, Strang, P. and Vulcan, A. *Evaluation of random breath testing in Victoria, Australia*. Paper presented at the Eighth International Conference on Alcohol, Drugs, and Traffic Safety, Stockholm, Sweden, 1980.
- Compton, R. and Engle, R. *The use of roadside sobriety checkpoints for DWI enforcement*. Report DOT-HS-806-476, National Highway Traffic Safety Administration: Washington, DC, 1983.
- Epperlein, T. *The use of sobriety checkpoints as a deterrent: An impact assessment*. Arizona Department of Public Safety: Phoenix, 1985.
- Harris, D.H., Dick, R.A., and Jarosz, C.J. *The Visual Detection of Driving While Intoxicated*. Washington, D.C.: National Highway Traffic Safety Administration, 1980.
- Homel, R. *Policing and punishing the drinking driver: A study of general and specific deterrence*. Springer-Verlag: New York, 1988.
- Jacobs, J.J. *Drunk driving: An American dilemma*. The University of Chicago Press: Chicago, IL, 1989.
- Johnston, Bruce. Chief Superintendent of the New South Wales Police Department, Surry Hills, NSW. Personal interview when visiting Anacapa Sciences in 1991.
- King, J. and Tipperman, M. Offense of driving while intoxicated: The development of statutes and case law in New York. *Hofstra Law Review*, 3, 541-604, 1975.
- Kratochwill, T.R. and Levin, J.R. *Single case research design and analysis: New directions for psychology and education*. Lawrence Erlbaum Associates Publishers: Hillsdale, NJ, 1992.
- Lacey, J., Marchetti, L., Stewart, R., Murphy, P., and Jones, R. *Combining enforcement and information to deter DWI: The experience of three communities*. University of North Carolina Highway Safety Research Center: Chapel Hill, 1990.
- Levy, D. Methodologies for the evaluation of local traffic safety programs: With an application to New Jersey DWI problems. *Sociological Abstracts*, 1988.

- Levy, D., Shea, D., and Asch, P. Traffic safety effects of sobriety checkpoints and other local DWI programs in New Jersey. *American Journal of Public Health*, 79, 3: 291-293, March 1989.
- Lund, A.K., and Wolfe, A.C. *Changes in the incidence of alcohol-impaired driving in the United States, 1973-1986*. Insurance Institute for Highway Safety: Arlington, Virginia, February, 1989.
- Mac Coun, R.J. Drugs and the law: A psychological analysis of drug prohibition. *Psychological Bulletin*, 113, 3, 497-512.
- McCleary, R., Hay, R.A., Jr., Meidinger, E.E., and McDowell, D. *Applied time series analysis for the social sciences*. Sage Publications: Beverly Hills, CA, 1980.
- Mercer, G. *The relationships among driving while impaired charges, police visibility, and alcohol-related casualty traffic accidents, British Columbia, December 1977-December 1980*. Ministry of Attorney General Counter Attack Program, Police Services Branch: Vancouver, BC, 1984.
- Pagano, M. and Gauvreau, K. *Principles of biostatistics*. 1993.
- Ross, H.L. *Confronting drunk driving: Social policy for saving lives*. Yale University Press: New Haven, CT, 1992.
- Ross, H.L. Deterrence regained: The Cheshire Constabulary's "breathaliser blitz." *Journal of Legal Studies*, 6: 241-249, 1977.
- Simpson, H.M., and Mayhew, D.R. *The Hard Core Drinking Driver*. Traffic Injury Research Foundation, 1992.
- Stuster, J. *The Detection of DWI Motorcyclists*. National Highway Traffic Safety Administration Final Report DOT HS 807 839: Washington, D.C., 1993.
- Stuster, J. *The Material Conditions of Choice: An Anthropological Study of a California Commercial Fishing Community*. Unpublished PhD dissertation. University of California: Santa Barbara, CA, 1976.
- Voas, R., Rhodenier, E., and Lynn, C. *Evaluation of the Charlottesville Checkpoint operations*. Report DOT-HS-806-989, National Highway Traffic Safety Administration: Washington, DC, 1985.
- Williams, A. and Lund, A. Deterrent effects of roadblocks on drinking and driving. *National Highway Traffic Safety Administration Traffic Safety Newsletter*, 3, 6: 7-17, November 1984.

APPENDIX A

DISCUSSION OF THE LEGAL ISSUES CONCERNING THE CONDUCT OF SOBRIETY CHECKPOINTS

From Site Notebooks Provided to the Participating Police Departments

LEGAL MATERIALS

The constitutionality of sobriety checkpoints has been challenged in all 50 states during the past ten years. The primary legal challenge to checkpoints concerns Fourth Amendment protections against unlawful, capricious or arbitrary searches and seizures of citizens. These are very real concerns because the protections like those guaranteed by the Bill of Rights, that we in the United States enjoy, are among the key advantages that set our system apart from others in the world. Twelve states have found that sobriety checkpoints conflict with the peoples' right to be protected from search and seizure. Courts in the states that have found sobriety checkpoints to be constitutional have imposed guidelines to mitigate the intrusiveness of checkpoints. Basically, the guidelines imposed by the courts address the following issues.

- **Checkpoint locations.** Checkpoint locations must be based on objective evidence of DUI activity (i.e., arrests or crashes). This is to prevent an agency from targeting a business or church, neighborhood, ethnic group, etc. In addition to DUI activity, safety of the motorists and checkpoint personnel should be the primary concern when selecting checkpoint locations.
- **Non-arbitrary means of selecting vehicles to stop.** Either all vehicles that pass through a checkpoint will be stopped, or the method for sampling the flow of vehicles will be systematic (e.g., every third, fourth, fifth, etc. vehicle). This guideline prevents officers on the line from deciding who to stop on subjective bases, such as race, social class, occupation, or the age or appearance of a vehicle.
- **Minimally inconvenient.** The delays to motorists that are caused by checkpoints must be minimal (e.g., less than a minute) to minimize the subjective intrusion and inconvenience to the law-abiding population. Checkpoint delays are usually less than 30 seconds.
- **Clearly-marked checkpoints.** Checkpoints must be well-illuminated, with signs clearly announcing the purpose of the checkpoint. Police vehicles and uniformed personnel also contribute to the "indicia of authority" necessary to assure citizens that they are being stopped by actual law enforcement officers and for lawful reasons, and that they need not fear the process.
- **Ability to avoid the checkpoint.** California has determined that motorists should have the ability to avoid the checkpoint if they wish. Checkpoint geometries should include an "escape route" to permit motorists to avoid the checkpoint. An illegal turn or maneuver to avoid a checkpoint

provides probable cause to stop a vehicle. Also, vehicles that avoid checkpoints may be followed for a reasonable distance to scrutinize driving performance for impairment. It is interesting to note that most drivers who turn to avoid a checkpoint are not DUI, but have other, sometimes philosophical, reasons for avoiding contact. However, a large proportion of those who attempt to avoid have been drinking. The number of motorists who attempt to avoid a checkpoint is usually very small (e.g., two or three per night). And, those who are impaired usually cannot avoid the checkpoint in time, or when they attempt the maneuver to avoid they make an error resulting in an enforcement stop. In other words, in actuality there is really very little "cost" to satisfying the requirement for escape routes.

- **Prior-Announcement.** One of the means by which subjective intrusion is mitigated is to announce a checkpoint in advance. The purpose of prior announcement is not to warn drinking drivers of an impending checkpoint. Rather, the purpose is to advise the law-abiding citizens so they will not be startled, afraid, or embarrassed to encounter a checkpoint. Prior announcement also contributes to the deterrent effect of checkpoints; that is, motorists cannot be deterred from driving while impaired if they do not receive the message that there is a strong probability that they will be stopped. The bulk of the remainder of this section addresses the issue of prior announcement.

PRIOR-ANNOUNCEMENT OF CHECKPOINTS

The guidelines developed by many law enforcement agencies, including the California Highway Patrol, specify that checkpoints be announced in advance. The CHP guidelines specify that checkpoint locations *may be* provided to media personnel if and when they call for it--no sooner than two hours prior to the checkpoint. In truth, CHP area offices typically inform local media of locations with standardized news releases, usually 125 minutes prior to checkpoint implementation. Our reading of the CHP guidelines, however, suggests that the sergeants need only respond to inquiries and they are not obligated to *ensure* that the information is published or broadcast. Most CHP sergeants are eager to obtain all the publicity they can for their occasional checkpoints; they are firm in their convictions that the more publicity they can generate, the greater the deterrent effect.

The CHP requirement for advance notification of impending checkpoints is a conservative interpretation of the policy established by the State Department of Justice. Why did the State Attorney General, and the attorneys general and supreme courts of other states, impose this requirement of prior notification?

It has been nearly ten years since the term "sobriety checkpoint" was coined to describe the practice of stopping lanes of traffic to inspect motorists for alcohol-

impairment. The constitutionality of sobriety checkpoints has been challenged in every state since the concept was developed. It is essential to the current study to recognize that checkpoints were found to be unconstitutional in twelve states; the supreme courts of two additional states have allowed conduct of checkpoints but with such stringent guidelines that law enforcement agencies in those states have declined to use the technique (i.e., Wyoming--daylight hours only; Wisconsin--with search warrants).

Law enforcement's privilege to conduct sobriety checkpoints was achieved only following protracted legal battles in the remaining 36 states that permit this general deterrence technique. In all cases, the central argument focused on checkpoints' clear infringement on Fourth Amendment rights, which protect the people from capricious or random searches and seizures. Most states have found that prior announcement of checkpoints is a means by which the intrusiveness of the seizure is mitigated; consequently, most states have made prior announcement an essential requirement for legality. And in some states, policies have been established that permit publication of actual locations of checkpoints immediately prior to checkpoint implementation. The California Highway Patrol permits access to this information by news media personnel only two hours prior to the deployment of a checkpoint, but again, *prior announcement of locations is not required by the State of California*. But what about general announcements regarding impending checkpoints?

The Supreme Court of the United States recently addressed the "subjective intrusiveness" of checkpoints and prior announcement issues in *Michigan v Sitz*, the case that originally caused the cessation of Michigan State Police checkpoints. In the decision, Chief Justice Rehnquist wrote:

The "fear and surprise" to be considered are not the natural fear of one who has been drinking over the prospect of being stopped at a check-point but, rather, the fear and surprise engendered in law abiding motorists by the nature of the particular stop...

California courts, along with those of most other states where checkpoints are conducted frequently, have held that advance publicity is necessary to minimize the subjective intrusiveness of checkpoints. The Attorney General of the State of California wrote in his decision:

The courts have looked with favor on giving sobriety checkpoints advance publicity. Advance publicity serves to establish the legitimacy of sobriety checkpoints in the minds of motorists...Advance publication of the date of an intended roadblock, even without announcing its precise location, would have the virtue of reducing surprise, fear and inconvenience...[and] advance publicity enhances the deterrent effect of sobriety checkpoints (Opinion by John K. Van De Kamp: *Use of sobriety checkpoints by California law enforcement agencies in detection of motorists driving while under the influence of intoxicating substances*, 1984).

In a subsequent, now landmark, case the California Court of Appeals defined the elements that constitute an acceptable sobriety checkpoint. Among the many

issues addressed by the court was prior announcement of an impending checkpoint. In *Ingersoll v Palmer*, the court found:

Advance notice to the public through the media that sobriety checkpoints are planned will simultaneously diminish their intrusiveness and increase their deterrent effect. The concurring opinion in *State ex rel. Ekstrom v. Justice Ct. of State*, *supra*, 663 P.2d at p. 1001, cogently explained the value of advance publicity: "Such publicity would warn those using the highways that they might expect to find roadblocks designed to check for sobriety; the warning may well decrease the chance of apprehending 'ordinary' criminals, but should certainly have a considerable deterring effect by either dissuading people from taking 'one more for the road,' persuading them to drink at home, or inducing them to take taxicabs. Any one of these goals, if achieved, would have the salutary effect of interfering with the lethal combination of alcohol and gasoline. Advance notice would limit intrusion upon personal dignity and security because those being stopped would anticipate and understand what was happening." (See also *State v. Deskins*, *supra*, 673 P.2d at p. 1182; *Jones v. State*, *supra*, 459 So.2d at p. 1076 [criticizing failure to give advance notice].)

No legitimate purpose is served by surprising motorists at a checkpoint. Indeed, in the airport search context, the concurring judges in *People v. Hyde*, *supra*, 12 Cal.3d at pages 175-176 explained: "Of signal importance is the fact that airline passengers have advance notice that they will be subjected to a pre-entry screening for weapons and explosives. Although advance notice in itself cannot operate to deprive an individual of his Fourth Amendment rights, it nevertheless has been recognized by the courts and commentators as a factor of major significance in evaluating the extent to which individual privacy is compromised and intruded upon by governmental action. Advance notice enables the individual to avoid the embarrassment and psychological dislocation that a surprise search causes." (fns. omitted.)

In sum, advance publicity is absolutely essential to the establishment of a constitutionally permissible roadblock. Only when it becomes generally known to the driving public that such checkpoints may be encountered will maximum deterrent effect be achieved. Publicity will also considerably lessen the anxiety of the motorist approaching the checkpoint and will permit motorists to plan for potential delays from sobriety checkpoints. We also agreed, however, with those authorities which have suggested that the publicity need not identify the precise location of the roadblock. (See, e.g., *State v. Super. Ct. in & for County of Pima*, *supra*, 691 P.2d at p. 1073; *Com v. McGeoghegan*, *supra*, 449 N.E.2d at p. 353.) (Our emphasis.)

Considering and balancing all these factors, we conclude that sobriety checkpoints conducted according to the guidelines we have enumerated are permissible under the United States and California Constitutions. Though intrusive and burdensome to the public even when properly conducted, the degree of intrusion is justified by the magnitude of the drunk driving hazard and the potential for deterrence and detection. We emphasize, however, that the balance does not so clearly favor such checkpoints as to permit their establishment or operation without considerable planning, preparation, and publicity. Careful attention must be paid to the Attorney General's suggestions: "[Planning and preparation] should commence with high level management and policy-making officers and personnel. The location and timing of the checkpoints should be carefully

chosen, preferably [sic] with statistical verification that they correlate with high incidence of drunk driving. The methods and procedures to be used should be spelled out in detail so that little discretion is left to the officers conducting the checkpoint. Care must be taken to assure the safety of motorists and that traffic is not allowed to back up. Sufficient personnel and equipment must be prided to fully implement the plans. All of the foregoing should be fully documented so that it may be presented to the court to justify any arrests that may be made . . ." (67 Ops.Cal. Atty. Gen., *supra*, at p. 486.)

We believe that prior announcement of impending checkpoints contributes, rather than detracts, from our project objectives. Prior announcement contributes:

- By enhancing access to news media and increasing publicity about the checkpoint program.
- By protecting the participating law enforcement agencies' privileges to continue conducting checkpoints. No agency wants to be the one that "ruins it" for all others.
- Because many states require prior announcement, it is necessary to conduct the study in one of these states for study results to be applicable to all states. (Clearly, results would be applicable in the few states that maintain secrecy about checkpoints.)

The State of California does not require prior notification of checkpoint locations. Law enforcement agencies are, however, obligated to announce impending checkpoints at least 48 hours in advance (which contributes to our study's deterrence objectives).

Our approach to prior announcement, as described in the Memorandum of Agreement with your department, is to announce the checkpoints fully nine days in advance. It is believed that announcing checkpoints more than a week in advance will contribute to uncertainty regarding the actual dates of the checkpoints. Mr. Charles Kirk, Assistant Attorney General for the State of California, has advised us that we may announce checkpoints in this fashion, and with less specificity than has been the CHP's practice. In particular, you may state in your press releases that a checkpoint (or checkpoints) will be conducted within the city limits, and sometime during a specified weekend. It is not necessary to include the actual dates and times of your checkpoints.

Feel free to share this information with your local District Attorney if legal questions arise. If you or your local District Attorney require more information on this subject you may contact Mr. Kirk at the Attorney General's Office directly:

- Mr. Charles Kirk (415)703-2433.

AFFIDAVIT OF SERGEANT SCHULTZ

The Albuquerque PD averages about 24 DUI arrests at each sobriety checkpoint the department conducts (as many as 45 arrests one night!). As a result, Sergeant Schultz was spending an extraordinary amount of time in court testifying about, and defending, the conduct of his checkpoints. To avoid court appearances for every arrest made, Sergeant Schultz prepared the enclosed affidavit and "trained" the courts to accept his statement. The affidavit provides an excellent *pro forma* rebuttal to each of the likely challenges to a DUI arrest that is made at a checkpoint. This document could be very valuable to all liaison officers and checkpoint OICs. You may find it necessary or desirable to use Sergeant Schultz' affidavit as a model for an affidavit to minimize *your* court time, or as a set of statements to read in court, or to provide in interviews and discussions about your department's checkpoint program.

APPENDIX B

EXAMPLES OF DMV SURVEY QUESTIONNAIRES

Modesto (Sobriety Checkpoint Example)
Ontario (Roving Patrol Example)
Santa Barbara (Comparison Example)

DWI PUBLIC AWARENESS QUESTIONNAIRE

This is a voluntary and confidential survey that asks your opinion about the problem of Driving While Impaired (DWI). Your opinions are important to help increase traffic safety in Modesto. Please complete both sides of the page. Please do not put your name on this form. You do not have to complete it in order to receive your driver's license or vehicle registration. The National Highway Traffic Safety Administration thanks you for your cooperation.

Instructions: For each question, please check the one response that applies to you. Today's date: _____

1. Gender: Male 1 Female 2

2. Age: 16-20 yrs. 1 21-29 yrs. 2 30-39 yrs. 3 40-49 yrs. 4 50-59 yrs. 5 60-69 yrs. 6 70 yrs. or older 7

3. Number of years you have been driving: Less than 1 year 1 1 - 5 years 2 6 - 10 years 3 11 - 15 years 4 More than 15 years 5

4. Number of years you have lived in Modesto: 1 2 3 4 5

0 I do not live in Modesto, I live in _____

This section of the survey contains questions about Sobriety Checkpoints (Police stop all vehicles on a street to check for drunk drivers).

5. Before this survey, had you ever heard of a Sobriety Checkpoint in Modesto? NO 1 YES 2 How many times? _____

6. Have you ever seen a Sobriety Checkpoint in Modesto? 1 2 → _____

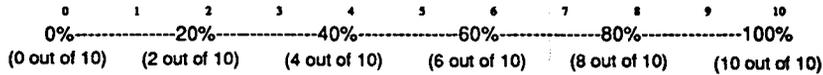
7. Have you ever driven through a Sobriety Checkpoint in Modesto? 1 2 → _____

8. About how many times have you seen/heard about the Sobriety Checkpoint Program in Modesto. . .

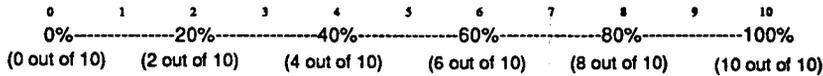
a. on television?	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4
b. on radio?	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4
c. . . in the newspaper?	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4
d. from friends?	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4
e. at work?	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4
f. . . from a community organization? (such as Boy Scouts, Kiwanis, MADD, etc.)	Never <input type="checkbox"/> 0	1 - 5 times <input type="checkbox"/> 1	6 - 10 times <input type="checkbox"/> 2	11 - 20 times <input type="checkbox"/> 3	More than 20 times <input type="checkbox"/> 4

(Continued on other side)

9. If alcohol were affecting your driving, what are the chances that you would be stopped by a law enforcement officer?
 (Circle the percent chance you would be stopped.)



10. If alcohol were affecting your driving, what are the chances that you would be arrested if you were stopped by a law enforcement officer? (Circle the percent chance that you would be arrested.)



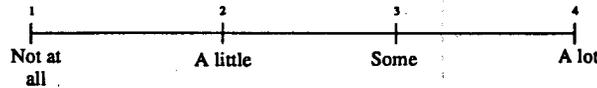
11. If you had to drive, and you knew in advance that there was going to be a Sobriety Checkpoint somewhere in your community, would you:

Drink as Much
as Usual
1

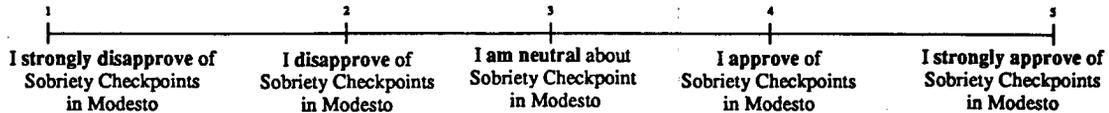
Drink Less
than Usual
2

Not Drink
at all
3

12. Circle the place on the scale that describes how much you think Sobriety Checkpoints help reduce the number of drunk drivers on the road:



13. Circle the place on the scale that describes what you think about Sobriety Checkpoints in Modesto.



14. Have you ever avoided driving a vehicle after drinking out of concern for being stopped by a law enforcement officer in Modesto?

YES NO
 1 2

15. Have you ever avoided driving a vehicle after drinking out of concern for being stopped by a Sobriety Checkpoint in Modesto?

YES NO
 1 2

16. Do you ever drink alcoholic beverages?

YES NO
 1 2

17. Since you became aware of Modesto's Sobriety Checkpoint program, has your drinking and driving behavior...

1 Not Changed 2 Increased 3 Decreased 4 I am Not Aware of Program

Thank you. Please return this to the box labeled "Public Awareness Questions."

DWI PUBLIC AWARENESS QUESTIONNAIRE

This is a voluntary and confidential survey that asks your opinion about the problem of Driving While Impaired (DWI). Your opinions are important to help increase traffic safety in Ontario. Please complete both sides of the page. Please do not put your name on this form. You do not have to complete this in order to receive your driver's license or vehicle registration. The National Highway Traffic Safety Administration thanks you for your cooperation.

Instructions: For each question, please check the one response that applies to you. Today's date: _____

1. Gender: Male Female

2. Age: 16-20 yrs. 21-29 yrs. 30-39 yrs. 40-49 yrs. 50-59 yrs. 60-69 yrs. 70 yrs. or older

	Less than 1 year	1 - 5 years	6 - 10 years	11 - 15 years	More than 15 years
3. Number of years you have been driving:	<input type="checkbox"/>				
4. Number of years you have lived in Ontario:	<input type="checkbox"/>				
<input type="checkbox"/> I do not live in Ontario, I live in _____					

This section of the survey contains questions about Special DWI Patrols
 (Police looking for drunk drivers).

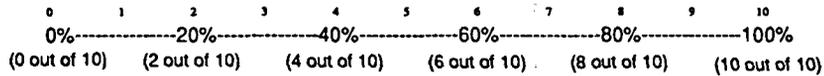
	NO	YES	
5. Before this survey, had you ever heard of Special DWI Patrols in Ontario?	<input type="checkbox"/>	<input type="checkbox"/>	How many times?
6. Have you ever seen Special DWI Patrols in Ontario?	<input type="checkbox"/>	<input type="checkbox"/>	→ _____
7. Have you ever seen a Special DWI Patrol stopping a car in Ontario?	<input type="checkbox"/>	<input type="checkbox"/>	→ _____

8. About how many times have you seen/heard about the Special DWI Patrols in Ontario...

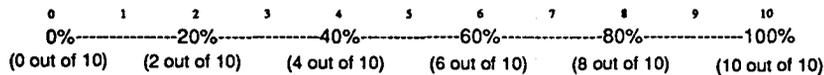
a. on television?	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>
b. on radio?	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>
c. ... in the newspaper?	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>
d. from friends?	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>
e. at work?	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>
f. ... from a community organization? (such as Boy Scouts, Kiwanis, MADD, etc.)	Never <input type="checkbox"/>	1 - 5 times <input type="checkbox"/>	6 - 10 times <input type="checkbox"/>	11 - 20 times <input type="checkbox"/>	More than 20 times <input type="checkbox"/>

(Continued on other side)

9. If alcohol were affecting your driving, what are the chances that you would be stopped by a law enforcement officer?
 (Circle the percent chance you would be stopped.)



10. If alcohol were affecting your driving, what are the chances that you would be arrested if you were stopped by a law enforcement officer? (Circle the percent chance that you would be arrested.)



11. If you had to drive, and you knew in advance that there were going to be Special DWI Patrols somewhere in your community, would you:

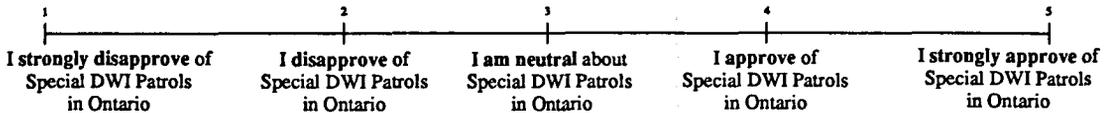
Drink as Much as Usual Drink Less than Usual Not Drink at all

1 2 3

12. Circle the place on the scale that describes how much you think Special DWI Patrols help reduce the number of drunk drivers on the road:



13. Circle the place on the scale that describes what you think about Special DWI Patrols in Ontario.



14. Have you ever avoided driving a vehicle after drinking out of concern for being stopped by a law enforcement officer in Ontario? YES NO
 1 2

15. Have you ever avoided driving a vehicle after drinking out of concern for being stopped by a Special DWI Patrol in Ontario? YES NO
 1 2

16. Do you ever drink alcoholic beverages? YES NO
 1 2

17. Since you became aware of Ontario's Special DWI Patrol program, has your drinking and driving behavior...

1 Not Changed 2 Increased 3 Decreased 4 I am Not Aware of Program

Thank you. Please return this to the box labeled "Public Awareness Questions."

DWI PUBLIC AWARENESS QUESTIONNAIRE

This is a voluntary and confidential survey that asks your opinion about the problem of Driving While Impaired (DWI). Your opinions are important to help increase traffic safety in Santa Barbara. Please complete both sides of the page. Please do not put your name on this form. You do not have to complete this in order to receive your driver's license or vehicle registration. The National Highway Traffic Safety Administration thanks you for your cooperation.

Instructions: For each question, please check the one response that applies to you. Today's date: _____

1. Gender: Male 1 Female 2

2. Age: 16-20 yrs. 1 21-29 yrs. 2 30-39 yrs. 3 40-49 yrs. 4 50-59 yrs. 5 60-69 yrs. 6 70 yrs. or older 7

3. Number of years you have been driving: Less than 1 year 1 1 - 5 years 2 6 - 10 years 3 11 - 15 years 4 More than 15 years 5

4. Number of years you have lived in Santa Barbara: 1 2 3 4 5

I do not live in Santa Barbara, I live in _____

This section of the survey contains questions about DWI Enforcement.

5. Before this survey, had you ever heard of DWI enforcement in Santa Barbara? NO 1 YES 2 How many times?

6. Have you ever seen DWI enforcement in Santa Barbara? 1 2 → _____

7. Have you ever seen DWI enforcement stopping a car in Santa Barbara? 1 2 → _____

8. About how many times have you seen/heard about DWI enforcement in Santa Barbara. . .

a. on television? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4

b. on radio? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4

c. . . in the newspaper? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4

d. from friends? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4

e. at work? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4

f. . . from a community organization? Never 0 1 - 5 times 1 6 - 10 times 2 11 - 20 times 3 More than 20 times 4
 (such as Boy Scouts, Kiwanis, MADD, etc.)

(Continued on other side)

APPENDIX C

SUMMARY OF KICK OFF PRESS CONFERENCES

DESCRIPTION OF THE KICK-OFF PRESS CONFERENCE CONDUCTED BY THE VENTURA SOBRIETY CHECKPOINT COMMITTEE AND THE VENTURA POLICE DEPARTMENT

The Ventura Police Department borrowed a mobile stage from the organizers of the Ventura County Fair and transported it to a stretch of roadway that had been the scene of several alcohol-involved fatal crashes in recent years. The road was closed for about a quarter mile and traffic diverted around the press conference location; the mobile stage was then parked across all four lanes, and folding chairs set-up in front of the stage. A car that had been recently demolished in a DWI crash was placed between the elevated and covered stage and the rows of chairs; another crashed vehicle from a multiple fatality DWI crash was located on a trailer behind the audience. MADD placed displays about DWI victims and dispensed coffee and donuts on one side of the road while the Ventura PD's new sobriety checkpoint trailer was proudly displayed on the opposite side.

The speakers were introduced by the Ventura PD's traffic lieutenant and included the chief of police, mayor, district attorney, a judge of the municipal court, a Hispanic officer who conveyed a bilingual message, a NHTSA representative, and the president of the Ventura Chapter of MADD. Also in attendance were the county medical examiner, the directors of several city and county services departments, local college administrators, the CHP captain, and the second in command of the county sheriff's department; in addition, the audience included MADD volunteers, committee members, and associates of the speakers and distinguished guests of the committee. Three newspapers, two television stations, and one radio station covered the press conference.

All of the speakers spoke effectively (and briefly) about the importance of the checkpoint program that they had assembled to announce. The remarks by the local president of MADD, however, were particularly effective. Linda Oxenrider spoke eloquently of a personal experience in which she received a telephone call from the CHP that is the substance of every parent's worst nightmare. She described how she passed the crash scene while driving to the hospital, and the special feeling of loss and anger she has experienced as a result of losing her child to a drunk driver. The drunk driver drifted onto the shoulder and smashed her car into Joshua Oxenrider and a group of his friends as they were walking from their disabled vehicle. Mrs. Oxenrider concluded her presentation with a poem:

When you were but a newborn baby, I put your finger in my hand and you were "holding on."

When you learned to walk, your hands grasping at the edge of the coffee table, you were "holding on."

Shortly after that God invented the wheel and gave it to you as a prize, on those little tricycle handle bars you were "holding on."

Mom loves to talk about your first day of kindergarten, hand in hand at the bus stop, you were "holding on."

Then God invented the bicycle and the world shrank for you, and you were "holding on."

When you built your first motorcycle out of five boxes of scrap parts, two days later, roaring down the street, you were "holding on."

BMX, motocross, dirt bikes, you were always "holding on."

Son, the coroner told us the night you died, that because of your youth and your strength, between the crash site and the hospital, you were "holding on."

You've taught me well these 19 short years, so until we meet again, in my grief "I'll be holding on."

Roger Oxenrider, father of Joshua,
killed by a drunk driver March 31, 1989*

All observers were visibly moved by Mrs. Oxenrider's calm recitation of her personal experience as a DWI victim. Even seasoned law enforcement veterans wept.

* This poem is published with the permission of the Oxenrider family.

SUMMARY OF KICK OFF PRESS CONFERENCES

VISALIA DATE: 27 July 1992 LOCATION: Visalia City Council Chambers TIME: 10:30 AM

SPEAKERS:

- Michael Harrison, local attorney and Chairperson of "FOCUS on Sober Driving" (the program support committee developed by Anacapa Sciences, Inc.)
- Chief Bruce McDermott, Visalia Police Department
- Brian Haddox, Representative of Senator Rose Vuich
- Dr. Paul Tremont, NHTSA representative

OTHER VIPS ATTENDING PRESS CONFERENCE

- Linda Tapal, President of Tulare & Kings County MADD
- Gary Reed, Representative of Assemblyman Bill Simon
- Captain Michael Scott, Tulare County Sheriff's Department
- Mary Louise Vivier, Visalia City Council Chairperson
- Ray Forsythe, Visalia City Manager
- Dan Leon, Mayor of the City of Corcoran
- Wally Gregory, Visalia City Councilperson
- Warden Greg Avila, CDC Corcoran Prison

NEWS MEDIA PRESENT

- KMPH-TV, Channel 26
- KSEE-TV, Channel 24
- Visalia Times-Delta
- Continental Cablevision

MODESTO DATE : 29 July 1992 LOCATION : Vintage Faire Mall TIME: 11:00 AM

SPEAKERS:

- Michael Rossinni, MD, Director of Trauma Services at Doctor's Medical Center, and Chairperson of "Citizens for Sober Driving" (the program support committee developed by Anacapa Sciences, Inc.)
- Mayor Dick Lang, City of Modesto
- Peter O'Rourke, Director of the California Office of Traffic Safety
- Chief Tom Donaldson, Modesto Police Department
- Dr. Paul Tremont, NHTSA representative

OTHER VIPS ATTENDING PRESS CONFERENCE

- Edward Tewes, Modesto City Manager
- State Assemblyman Sal Cannella
- Donald Stahl, Stanislaus County District Attorney
- Captain Charles Winn, California Highway Patrol
- Susan Mendiatta, President of the Hispanic Leadership Council
- Chief Gerald McKinsey, recently-retired chief of the Modesto Police Department
- Rhonda Dahlgren, Coordinator of "Friday Night Live"

NEWS MEDIA PRESENT

- KDJK-FM radio
- Post-Newsweek Cable (TV)
- *Modesto Bee*
- FOX-TV Scaramento, Channel 40
- Spanish Language TV, Channel 19

VENTURA **DATE :** 30 July 1992 **LOCATION :** Foothill Blvd. @ Hamilton **TIME:** 10:00 AM

SPEAKERS:

- Lieutenant Steve Bowman, Ventura Police Department
- Chief Richard Thomas, Ventura Police Department
- Mayor Greg Carson, City of Ventura
- Michael Bradbury, Ventura County District Attorney
- Judge Ken Riley, Ventura County Municipal Court
- Linda Oxenreider, President of the Ventura County Chapter of MADD
- Officer Juan Reynoso, Ventura Police Department DARE Program
- Dr. Paul Tremont, NHTSA representative

OTHER VIPS ATTENDING PRESS CONFERENCE

- Dr. Warren Lovell, Medical Examiner
- Dr. David Chase, Director of Ventura County Emergency Services
- Assistant Sheriff Oscar Fuller, Ventura County Sheriff's Department
- Captain Charles Campbell, California Highway Patrol
- Dr. Jess Carreon, President of Ventura College
- Steve Kaplan, Director of the Ventura County Alcohol and Drug Program Office

NEWS MEDIA PRESENT

- KEYT-TV, Channel 3
- KADT-TV, Channel 16
- *Oxnard Press-Courier*
- *Camarillo Daily News*
- *Ventura Star Free Press*
- KVEN-radio

ONTARIO **DATE:** 3 August 1992 **LOCATION:** Ontario City Council Chambers **TIME:** 10:00 AM

SPEAKERS:

- Detective Mike Macias, Ontario Police Department
- Supervisor Larry Walker, Chairperson of the San Bernardino County Board of Supervisors
- Chief Lowell Stark, Ontario Police Department
- Mayor James Fatland, City of Ontario
- LoVae Martines, Representative of the San Bernardino County Chapter of MADD
- Mayor Pro-Tem Dastrop
- Dr. Paul Tremont, NHTSA representative

OTHER VIPS ATTENDING PRESS CONFERENCE

- Al Irwin, Chief of Staff to Senator Rubin Ayala
- Janice Molnar, Chief of Staff to Senator Leonard
- Dick Meyer, Division Manager, Automobile Club of Southern California

NEWS MEDIA PRESENT

- KABC-TV, Channel 7
- KFRG-AM radio
- KHTS-FM radio
- KNSE-AM Spanish language radio
- *Inland Valley Daily Bulletin*

Santa Rosa **DATE** 10 August 1992 **LOCATION:** Frankin Park Clubhouse **TIME:** 10:00 AM

SPEAKERS:

- Chief Sal Rosano, Santa Rosa Police Department
- Undersheriff Dale Moor, Sonoma County Sheriff's Department
- Assistant District Attorney Greg Jacobs
- Sam Vanarsdale, Representative of the Sonoma County Chapter of MADD
- Mayor James Pedgrift
- Al Crancer, NHTSA representative

OTHER VIPS ATTENDING PRESS CONFERENCE

- Instead of VIPs, the Santa Rosa PSC elected to have ten victims of drunk drivers, provided by MADD

NEWS MEDIA PRESENT

- KRON-TV, Channel 4
- KFTY-TV, Channel 50
- KSRO-AM radio
- *Sonoma County Press Democrat*

APPENDIX D

**EXAMPLES OF NEWSPAPER ARTICLES ABOUT
THE EXPERIMENTAL PROGRAM**

Camarilloan relives her 'nightmare'

By LYNN BERK
Camarillo Daily News staff

VENTURA — It was a tough act to follow. And Ventura Police Officer Juan Reynoso didn't even try.

Reynoso was scheduled to speak at a press conference held outdoors on Foothill Road Thursday morning, announcing the city of Ventura's participation in a study on sobriety checkpoints by the National Highway Traffic Safety Administration.

Others had gone before him — including Ventura Police Chief Richard Thomas, Ventura Mayor Greg Carson, Ventura County District Attorney Michael D. Bradbury, and newly elected Ventura County Municipal Court Judge Ken Riley.

All spoke about the newly created Sobriety Checkpoint Program, its projected benefits, how many people are killed by drunken drivers, and how they are sentenced.

But then Camarillo resident Linda Oxenreider took the podium to talk about her son, Josh — one of three young men killed four years ago in a drunken driving accident on the Conejo Grade by then-Somis resident Diane Mannes, who was convicted of drunken driving and could still face manslaughter charges.

"I want to talk to you about the victims of drunken driving," began Oxenreider, who now serves as president of the Ventura County chapter of Mothers Against Drunk Drivers. "I found myself in the middle of a mother's worst nightmare."

When she was finished speaking, there wasn't a sound to be heard in the audience or among the officials on the dais. When Reynoso got up to speak, he could barely find his own voice.

"I'm still touched by what she said," he said after a few moments, his voice shaking. "I'm doing everything I can to keep your children safe. I'm asking you to do the same."

For Oxenreider, the nightmare began with a telephone call and the news that her son, 19-year-old Josh, had been in a car wreck and his leg was broken.

On their way to Los Robles Hospital in Thousand Oaks, Oxenreider said, they had to pass by the wreckage of the Ford Bron-



Larry Gund/Camarillo Daily News

Camarillo resident Linda Oxenreider talks at the press conference about her son, Josh, who was killed by a drunken driver.

co that smashed into her son and a group of his friends as they were talking away from their own disabled car.

"Fear gripped my heart," she said. "And I thought, please, God, just a broken leg."

At the hospital, still numb with worry, Oxenreider said they were standing in a waiting room and didn't notice at the time that no one else in the room was looking at them. She didn't know the officers had already been there, talking about the boys, all of them young, all of them blond; and about the driver of the Bronco who was reportedly laughing about how lucky she was she wasn't hurt.

"Then they took us into a smaller room," she said, "and a man in a white coat came in. I thought he was a doctor. I didn't know 'Coroner' was stenciled on the back of his coat. And he told us that our son had died. That he had hung on, through the trip to the hospital, in the helicopter, because he was young and healthy and

strong."

While her daughter, 24-year-old Joley Martinez, stood to the sidelines of the press conference, crying, Oxenreider went on.

"My son wasn't even there. I couldn't even touch his hand. They brought out a picture. I couldn't look at it. My husband looked at it and he said not only did that not look like Joshua — it didn't look like a human being. The only time I got to say good-bye to my son was at the funeral when I lay my hand on his coffin and told him I loved him."

There were long tables set out along the road at the press conference. On one was a vat of hot coffee and doughnuts. Press kits were set out at another. At a third table, there were pictures. School pictures of Josh, of his mother at his funeral, crying over his casket, and a copy of the death certificate.

There was a 16-by-20-inch picture of a little girl with long blond hair and an imp-

ish smile, her hands wrapped around the silver pole of a carousel horse. Next to her was another picture of a blue car she and her father were in when another man driving a pickup truck crossed the double yellow line on Santa Rosa Road in Camarillo and killed the two of them.

There were two death certificates on that poster; a picture of two caskets, one very small; a picture of two headstones.

Oxenreider told The Camarillo Daily News that it's always hard for her to come out to a place like this press conference, where the posters and the pictures and the wreckage are vivid reminders of her family's own personal tragedy.

But she says she has to do it.

"My main objective is to educate and get drunken drivers off the road," she said. "This is very difficult for me because it means I have to relive that night. But I think that every time I speak perhaps I've planted a seed and maybe I save one life."

Special RIDE unit on the move

New drunken driver program in Ontario

By Secret Meier
Staff Writer

Beware those who drink and drive.

Ontario city council and police officials announced Monday that the Ontario Police Department was recently selected to participate in a study to evaluate the effectiveness of driving under the influence (DUI) deterrence programs.

The National Highway Traffic Safety Administration (NHTSA) is sponsoring the experimental program that began Monday night in Ontario and in four other cities.

The City of Ontario has been chosen to conduct a special roving DUI patrol program, the Regional Intoxicated Driver Enforcement Program (RIDE), according to Ontario Police Chief Lowell Stark.

Police Officers Diane Dudone and Chris Cardoza will man the specially marked patrol car three nights a week, every other week for the next nine months.

Four other cities will be participating in the NHTSA study, he said, by conducting sobriety checkpoints programs. Participating cities include Santa Rosa, Modesto, Visalia and Ventura.

Officials noted that three types of checkpoints will be implemented: those that move



RIDE PATROL PREMIERES — Police Officer Chris Cardoza (left) and his partner, Officer Diane Dudone (right) will man the specially marked patrol car for the Regional Intoxicated Driver Enforcement (RIDE) program. The team will be seeking out suspected drunk drivers and arresting as many as possible. Pictured with the officers is Ontario Police Chief Lowell Stark.

Staff photo by Secret Meier

every two hours; those that are moved from weekend to weekend; and others that utilize the same location every week.

The City of Santa Barbara will act as the control group for the study. As such, Santa Barbara will refrain from any special DUI enforcement and public information and education programs, noted the police chief.

Ontario was chosen as a target city, said the police chief, because the city's alcohol-related accident statistics are similar to the state's averages of DUI statistics.

In addition to conducting the experimental evaluation of DUI enforcement, sobriety awareness public education programs will begin in all five cities.

Police officials hope to

heighten awareness of drunk driving, its dangers and penalties.

The study results of Ontario's roving unit will be compared to the sobriety checkpoint programs in the other four cities.

LoVae Martinez, charter member and officer of the San Bernardino County Chapter of Mothers Against Drunk Driving (MADD) praised the study, calling the program a meaningful endeavor "to those of us who are victims."

Ms. Martinez said that her dream to be among the state's first female California Highway Patrol officers was shattered when riding on patrol with a Los Angeles County deputy sheriff, she and the deputy were struck by a drunk driver.

Ms. Martinez had numerous broken bones and internal injuries and the deputy was paralyzed.

In addition to MADD, the study has a local support committee consisting of representatives from the offices of Senators Ruben Ayala and Bill Leonard as well as Assemblymen Jim Brulte and Jerry Eaves. Others supporting the program are San Bernardino County

Supervisor Larry Walker, the Automobile Club of California, the California Highway Patrol and Citizens Against Substance Abuse (CASA).

Chief Stark stated that there are no winners in this study. The valuable results of this study, he said, will give police departments an idea of the most effective DUI enforcement program to use.

Roving DUI checkpoints start tonight

Ventura Police tonight will conduct the first of 18 DUI checkpoints scheduled for the next nine months.

The checkpoints are part of an experiment to determine the most effective way to curb drunken driving. Using a specially-equipped trailer, police will move the location of the checkpoint three times during the evening. The locations are selected based on the number of DUI collisions and arrests in the area. Traffic officers will provide handouts on drinking and driving to all motorists who pass through the checkpoint.

Star-Free Press, August 7, 1992

SR police schedule sobriety checkpoints

Santa Rosa police will hold their 16th sobriety checkpoint this weekend.

Officers will set up the checkpoints between 7 p.m. and 3 a.m. at three different locations, said Lt. Rod Sverko.

Motorists approaching the checkpoints will see an informational sign, then will be diverted into a lane, where an officer will detain them for a few moments.

More than 8,000 drivers have been screened during the previous 15 checkpoints, Sverko said. Police have given 84 field sobriety tests and arrested 31 people for driving under the influence of alcohol.

The Press Democrat, March 27, 1993

Police make right move with sobriety checkpoints



Thumbs up to the City of Visalia, the Visalia Police Department, the

Tulare County chapter of Mothers Against Drunk Driving and the National Highway Traffic Safety Administration for arranging a nine-month sobriety checkpoint program in Visalia. Beginning tonight, and twice a month until April, police will operate a checkpoint and randomly stop vehicles to check for drunken drivers and give drivers information about the consequences of driving under the influence.

Visalia Times Delta, August 1, 1992

VENTURA

Sobriety Checks Net 3 Drunk Drivers

Sobriety checkpoints set up by Ventura police Friday night netted three drunk drivers, police said Saturday.

Police did not disclose the location of the random checks beforehand, a strategy upheld by recent court cases regarding sobriety checks. But police announced that the checkpoints would be set up this weekend, desk officer Graham Jeffrey said.

Police stopped 158 cars on Foothill Road, Main Street and Harbor Boulevard in Ventura. Drivers were given a handout warning them about the dangers of driving under the influence. More than 75% of the drivers told officers they approved of being stopped at sobriety checkpoints, a police report said.

—JOHN BATTELLE

Los Angeles Times, August 9, 1992

POLICE

Officers check for sobriety

By Courtney Perkes
Times-Delta

Officer Duke Hettick stopped a car at a sobriety checkpoint over the weekend and asked the driver the standard question: "Have you been drinking?"

"Nope, I don't drink," said the driver, giving Hettick the reply that allowed him to pass through the checkpoint in a matter of seconds.

But the stop made a positive impression on the driver.

"Being someone who has had three DUIs [driving under the influence arrests] in the past, I think it's a good idea," said Jason, who declined to give his last name.

"There's a lot more people out there drinking than we know about and it's usually the ones who aren't drinking who will get hurt."

Jason was among 427 drivers who passed through the sobriety checkpoint in the north-bound lanes of Mooney Boulevard, just north of Caldwell Avenue. Visalia police plan to set up two checkpoints a month through April to reduce drunk-en driving.

Jason said he quit drinking three years ago after his license was revoked for four years and he was treated for alcohol abuse. He supports regular checkpoints.

"If I knew there were random checkpoints in town I think I would've thought before drinking and driving. It would've kept me off the street," he said.

When traffic was slow



Stephen B. Thornton/Times-Delta

Further Investigation — Visalia police officer his car to undergo a field sobriety test during Brandon Shoemaker instructs a driver to park the weekend checkpoint on Mooney Boulevard.

enough, officers stopped every car, slowly guiding the drivers through the orange cones and smoky flares that lined the checkpoint. Otherwise every fourth car was stopped.

Officers chatted with drivers, checked licenses, and passed out literature on drinking and driving.

Hettick said he first checked for the odor of alcohol and then the demeanor of the driver. When he asked to see the driver's license, he noticed if the person fumbled around.

"After you've done a few thousand [stops] you see it in their eyes," Hettick said.

Most people didn't seem to

mind stopping and were friendly.

At one point, Hettick recognized a woman who had recently been arrested on suspicion of drunken driving. He was happy to see that she wasn't drinking and he told her so. But he also warned her that her license would be revoked.

Joan Bremer of Visalia, who was stopped at the checkpoint, said she supported the program.

"It gives them a little more to think about when they've had a few drinks," she said.

Jerry Coleman Jr. of Visalia said he thought regular checkpoints would make a differ-

Results

■ From 10:30 p.m. Saturday to 2:30 a.m. Sunday, 427 cars were checked.

■ Two men were arrested on suspicion of drunken driving and one man was arrested on suspicion of public intoxication.

■ Seven citations were issued, mostly for driver's license violations.

NEXT: There will be two checkpoints a month at undisclosed locations in Visalia through April.

ence.
"It'll get some of those idiots off the road," said Coleman.

Experimental Evaluation of Sobriety Checkpoint Programs
National Highway Traffic Safety Administration: Final Report, Appendix D

Visalia Times Delta, August 3, 1992

Roving checks quickly pay off

Ventura police arrest 3 on 1st night

By Monique Parsons / S-FP staff writer

The three Ventura police officers who supervised the first night of the department's experimental roving sobriety checkpoints Friday night spent almost as much time hauling signs and breaking down barricades as they did interviewing drivers.

The extra legwork apparently paid off.

By the time the traffic cones, lights and signs from the third checkpoint were loaded back into the department's new mobile checkpoint trailer, three people had been arrested for driving under the influence of alcohol.

They were caught after midnight at two of the three DUI checkpoints set up throughout the city. The officers and their volunteer assistants from Mothers Against Drunk Driving

(Please turn to A-5, Col. 1)

Ventura



Chuck Kirman / Star-Free Press

Police Cpl. Mike Foster says three drunken drivers were snared in the roving checkpoint. This motorist passed a sobriety test.



Chuck Kirman / Star-Free Press

Ventura Police Lt. Steve Bowman puts a motorist through the paces at a roving sobriety checkpoint, and the motorist passes with flying colors.

Roving police checks quickly pay off

Continued from A-1

traveled light and moved fast, staying at each site for about an hour before packing up and moving on, leaving little time for drinkers to spread the word.

"In the past, when we had the stationary checkpoint, they were actually making announcements at the bars," Lt. Steve Bowman said Friday night, as he waited for another car to drive through the first checkpoint on Foothill Road.

Catching the drunken driver unaware is one goal of the federally funded experiment, which also is being tried in California in Visalia, Santa Rosa, Modesto, Ontario and Santa Barbara.

"If I can scare the pants off them, if in that person's mind I'm around every corner, then so be it," Sgt. George Morris, traffic team supervisor, said at an introductory briefing Friday night at the Police Department.

The night began slowly, with 39 drivers, none of them apparently intoxicated, passing through the Foothill Road checkpoint between 10:15 and 11:15 p.m. The first person stopped after Bowman smelled alcohol on his breath was a 31-year-old Venturan named Rocky.

While Bowman watched carefully, Rocky patiently performed a series of coordination tests, counting backwards, balancing on one foot, standing erect with his head up and his eyes closed. He next blew into a small "alco-sensor," a screening device that indicated blood alcohol at .001, well below the legal limit of .08.

Although Rocky — he didn't give his last name — passed the tests easily, Morris said he wasn't willing to take any chances.

"I've had (blood alcohol) 2.0s — almost three times the legal limit — as stable as you," Morris told an observer. "They're actually the worst kind, because they look sober."

As he got into his car to drive away, Rocky said he was not angry about being stopped.

"I don't mind. My heart was pounding, but it was okay," he said.

Later, at the second checkpoint on Main Street near Cabrillo Drive, the officers were about to pack up around 12:30 a.m. when a brown Dodge Dart pulled up, paused briefly, then and began backing up. Cpl. Mike Foster jumped into a squad car and guided the Dart's driver to a nearby curb.

In a matter of minutes, after he

had stumbled when asked to walk a straight line and showed a preliminary blood-alcohol reading of .148, the 32-year-old man was in handcuffs.

Two other drivers were arrested at the third location, Harbor Boulevard at Schooner Drive.

Arresting drunken drivers, however, is not the only goal of the new program, funded by a \$23,000 federal grant for officers and equipment and is being studied by Anacapa Sciences, a behavioral science research firm in Santa Barbara.

Each of the 158 drivers who passed through the three Ventura checkpoints Friday night and early Saturday were given a friendly warning and handed an informational pamphlet.

"A goal of the study is to see what can be done at a time when resources are limited. And here is a chance for officers to have contact with nearly 200 people in one night," said Anacapa Sciences researcher Elizabeth Trebow, who observed the checkpoints Friday.

The study will run for the next nine months.

"I see a few things we can work on, but I see a lot fewer bugs than I expected tonight," Morris said early Saturday. "It's going smooth."

Star-Free Press, August 9, 1992



... it's not worth the risk in our city.

Half of all Americans will be involved in alcohol-related traffic accidents during their lifetimes. Each year 25,000 people die in accidents caused by **DRINKING DRIVERS**. Don't become another statistic!

In an effort to deter drinking and driving, we are pleased to announce the Modesto Police Department's participation in a Driving-Under-the-Influence Sobriety Checkpoint Program. Traffic safety is a primary concern of the Modesto Police Department and a citizens action committee called "Citizens for Sober Driving." This new checkpoint program has allowed police the opportunity to spot check for under-the-influence drivers in the Modesto area.

It is our earnest hope that the deterrent effect of the sobriety checkpoints have assisted,

and will continue to assist, in making Modesto's streets and highways safer from drinking drivers. The primary goal in this important program is to increase the perception of risk to the potential under-the-influence driver. Arrests for driving under the influence of alcohol at the checkpoint sites is *not* our goal -- deterring the would-be drunk driver is.

How much is too much?

BLOOD ALCOHOL YOUR WEIGHT	NUMBER OF DRINKS (Over a two hour period)							
	1	2	3	4	5	6	7	8
90 to 109	1	2	3	4	5	6	7	8
110 to 129	1	2	3	4	5	6	7	8
130 to 149	1	2	3	4	5	6	7	8
150 to 169	1	2	3	4	5	6	7	8
170 to 189	1	2	3	4	5	6	7	8
190 to 209	1	2	3	4	5	6	7	8
210 to 229	1	2	3	4	5	6	7	8
230 & Up	1	2	3	4	5	6	7	8

- (.08% - up) Definitely DUI
- (.05% - .07%) Likely DUI
- (.01% - .04%) May be DUI

Please join the concerned citizen committee, "Citizens for Sober Driving," and the Modesto Police Department in support-

ing traffic safety in Modesto by driving **ONLY WHEN SOBER.**

Citizens for Sober Driving

P.O. Box 1746 • Modesto, CA • 95353



Modesto Bee, December 30, 1992

MPD begins new DUI check point stops

from Times-Review files

The new roadside sobriety check point program that started with a \$10,000 grant from the California State Department of Transportation may have already saved lives or prevented injuries.

According to MPD Traffic Sergeant David Young the first check point was held on Prescott Road north of Mt. Vernon because of the large number of drunken driving arrests made in that area. Over the next nine months, according to Young the department will schedule at least 17 more sobriety check points.

The first of the 18 check points ended with 18 citations to motorists, including three arrests for driving while under the influence. Many of the citations were for open containers of beer in vehicles. One person who was cited told officers that she hated drunk drivers because one killed her best friend a few months ago. Four open containers were found in her car.

Drivers who did not want to submit to a sobriety check, by law, can drive away from the check point, however, law enforcement can follow that driver for a few miles to determine if the driver may be DUI.

Most of the drivers greeted the officers with smiles and each interjected jabs of humor. The police officer would ask the driver to roll down the car window then the officer would lean into the car to try and detect the odor of alcohol on the driver's breath. The officers would introduce themselves and after asking the drivers if they had consumed any alcohol that evening the officer would give the driver a booklet warning against drinking and driving.

The check point was conducted from 9:00 p.m. until 2:00 a.m.. Most of the time, at least twenty citizens sat on lawn chairs and

drank soda and ate snacks while watching the officers and drivers. Several citizens applauded when the officers conducted sobriety checks on the drivers and then arrested the driver for suspicion of DUI.

One citizen, who said her name was Carol, said that the officers may have saved an innocent person from death or injury by arresting the suspected drunken drivers at the check point.

The Modesto Times Review, August 22, 1992

Sobering reality of a DUI test

Drivers undergo police scrutiny

By CRAIG ANDERSON
Staff Writer

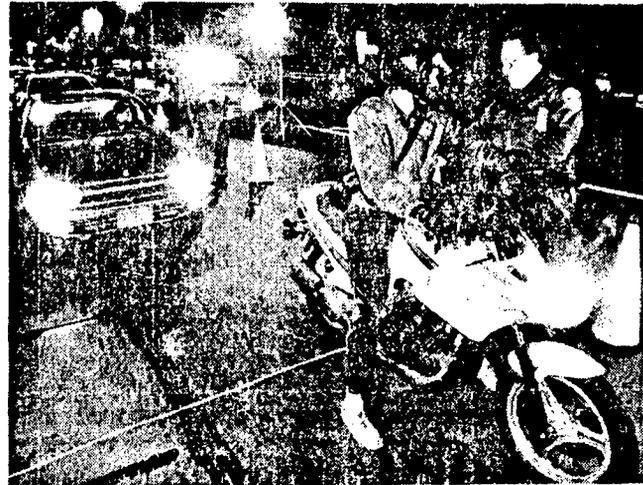
A Santa Rosa man faced an unexpected test in the chilly night air Friday, and things weren't going well.

The tuxedo-clad man, who was driving home with his wife from a party at the El Rancho Tropicana Hotel, was pulled over in a sobriety checkpoint being conducted by the Santa Rosa Police Department.

He had drunk only one beer and a glass of wine at the two-hour party, but it was enough to persuade officers to give him a field sobriety test.

The test seemed to last forever, especially to his wife, who anxiously watched from the passenger seat. Her husband had trouble maintaining his balance while standing on one foot and when walking heel-to-toe.

Finally, he was asked to come into a police trailer and take a breath test.



Even motorcycles were stopped at the checkpoint on Santa Rosa and Sonoma avenues.

"This is awful. We're very adamant about drinking and driving," his wife said during the long wait, noting a friend of their daughter's was killed in Chico recently by a drunken driver.

The news from the breath test was good, as the man tested .03, well under the legal limit of .08. But Sgt. John Burke said "one more drink" at the party probably
See DUI, Page B2

SR CHECKPOINT

DUI

Continued from Page B1

would have put the man legally under the influence of alcohol.

Lt. Rod Sverko said this kind of person — the one who doesn't think he or she is impaired — is the type who ends up arrested in Santa Rosa's sobriety checkpoint program.

Those who want to avoid the checkpoint have little trouble doing so, because signs are posted far enough in advance to allow a concerned driver to turn onto a side street.

Police don't pursue people who try to avoid the checkpoint, unless they do something illegal. But Sverko isn't bothered that many drivers avoid them, or that many drinkers call the police station to find out the locations of the checkpoints.

"We haven't arrested many people, but we've gotten an awful lot of information out," he said.

Drivers are pulled into a single lane, asked if they have been drinking, and given a quick once-over by officers who smell their breath and look into their eyes. Most are given information about drunken driving and waved on.

Friday's checkpoint, funded by a federal grant, was the ninth of 16 to be conducted by Santa Rosa police during an eight-month period ending in March.

Sgt. Burke said it is worthwhile. "They'll remember this a lot longer than they'll remember seeing officers pulling over a drunk driver," he said.



KENT PORTER/PRESS DEMOCRAT

Norm Stevens of the Santa Rosa Police Department talks a driver through the sobriety test at the checkpoint Friday night.

The Press Democrat, December 19, 1992

Entertainment/B4 TV log/B5 Opinion/B6 Obituaries/B7 Scene/B8

RIDE may be ticket to jail for DUI

Program goal to both
catch, deter offenders

By Mark Ryan
Daily Bulletin

ONTARIO — With memories of Saturday night's carnage on the Corona Expressway still fresh, the Police Department inaugurated a new experimental approach to drunken driving enforcement on Monday.

Called the Regional Intoxicated Driver Enforcement Program (RIDE), the program will compare its results to other drunken driving deterrence programs sponsored by the National Highway Traffic Safety Administration in four other California cities.

Dr. Paul Fremont of the National Highway Traffic Safety Administration said the agency will use the information learned to recommend better policies for combatting drunken driving.

"We were reminded last night on the evening news... (with pictures of) beer cans strewn all over the road," said San Bernardino County Supervisor Larry Walker, referring to the collision on the Corona Expressway Saturday night in which six people died. Authorities say drinking may have been a factor in the accident.

For the program's next nine months, Ontario police will send out two officers in a specially marked patrol car three nights per week every other week. The patrol car will concentrate only on enforcing drunken driving laws, alerting other patrol cars to most other incidents, said Chris Cardoza, one of two officers in the program.

Regular patrol officers will stop suspected drunken drivers and hold them until the program officers arrive.

Results of the experiment will be compared with the record compiled with sobriety checkpoints in Visalia, Modesto, Santa Rosa and Ventura.

"I hope we will come up with something that can help us put the money (spent on drunken driving enforcement) to the best use," Councilwoman Faye Myers Dastrup said.

Police Chief Lowell Stark said the program will also include a public information and education campaign using public service announcements, display ads, posters and other tools to alert people to "the importance and hazards of drunk driving."

See RIDE/B3



Rick Storza/Daily Bulletin

Ontario Police Chief Lowell Stark, center, talks with Cpl. Diane Dudone and Officer Chris Cardoza, the first two Ontario officers assigned to the Regional Intoxicated Driver Enforcement program.

RIDE/from B1

In a prepared statement Stark said the goal of the program is "not to make a lot of arrests, but to deter people from driving under the influence through a strong enforcement program, coupled with a comprehensive education program."

To help implement this program, the safety administration contributed

a \$10,000 grant to the city.

Ontario was chosen for the study by the safety administration partly because the city's statistics for alcohol-related accidents are close to the statewide average.

Figures show 63 percent of fatal crashes in Ontario and 46 percent

statewide were alcohol-related in 1991, while 15 percent of the injury accidents were alcohol-related for both Ontario and the state.

These numbers underscore the fact that alcohol is the single largest factor in automobile-related deaths in the U.S., according to the safety administration.

Study: Police checkpoints are working

BY JEFF KASS
SUN STAFF WRITER

Ventura police may have built a better sobriety checkpoint.

That's according to anthropologist Jack Stuster, who recently conducted a study of sobriety checkpoints throughout California under a \$400,000 grant from the National Highway Traffic Safety Administration (NHTSA).

Stuster said that after setting up 18 sobriety checkpoints from August 1992 to April 1993, the number of crashes involving alcohol in Ventura dropped by 15 - from 47 to 32. That is a 32 percent decrease compared to the period from August 1991 to April 1992.

It is impossible to pinpoint how many crashes the checkpoints prevented, but "the change did not occur by chance," Stuster said. "Of the 15 fewer crashes, some portion was definitely due to deterrence efforts."

But statistics may not tell the whole story.

Stuster explained that just having sobriety checkpoints in the community may cut down on drunken driving.

"Checkpoints are designed to increase the perception of risk," Stuster said. "Whether it has a real impact (on arrests) is irrelevant."

Lt. Steve Bowman, who heads the Ventura Police traffic division, said the department has only tracked one traffic fatality this year, compared with 10 last year. He said this year's traffic death was not alcohol-related, but he attributed the overall decline to sobriety checkpoints.

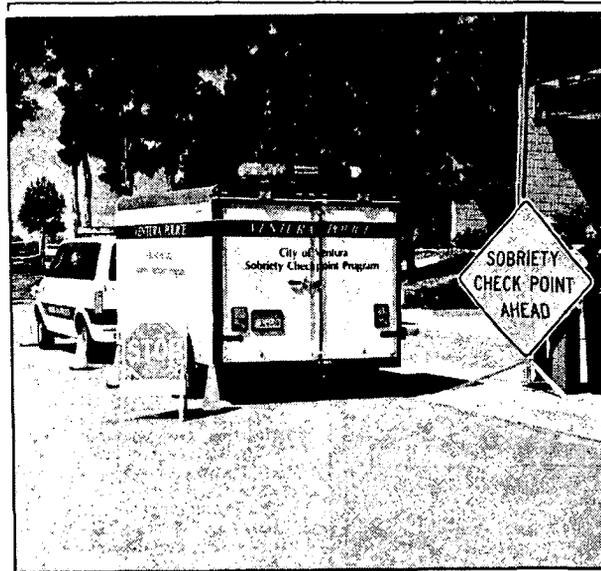
Bowman acknowledged that checkpoints may not result in more arrests, but said they are effective because they are highly visible and give officers a chance to talk with drivers and hand them pamphlets on drunken driving.

"When we started the study, I was not in favor of it, because I wanted to catch drunken drivers," Bowman said. "But we've tried it before and it just doesn't work."

"Jack (Stuster) sold us on preventiveness and education," he added.

Bowman said that checkpoints done before the study, with up to two dozen officers, resulted in a lot of arrests, but did not reduce car crashes.

Bowman said he could think of



A Ventura police officer checks out the equipment used by police at checkpoints set up to try to apprehend drunken drivers. A study indicates that the checkpoints may have had an effect on curtailing traffic accidents caused by drunken drivers.

no other reason for this year's reduction in traffic accidents.

"From my level, (the checkpoints) were the only thing we did differently," he said.

Stuster said other factors may decrease the number of crashes involving alcohol, including the trend in society frowning upon drinking and driving and baby boomers, who may take fewer risks as they grow older.

The study had two variables: The number of officers manning the checkpoints and the number of checkpoint locations on any given night. Ventura, for example, was "high mobility" because officers would move the checkpoint to three different locations in the same night, staying at each site for about an hour.

Ventura also was "low staffing" because four officers manned the checkpoints. (But thanks to volunteers from organizations like Mothers Against Drunk Drivers and Ventura College, there were usually about 10 people total.)

The study covered six cities in California: Santa Rosa, Modesto, Visalia, Santa Barbara, Ventura and Ontario. The range included everything from low mobility/low manpower to high mobility/high manpower.

Santa Barbara was the "control" group - no special measures were taken, Stuster said. Ontario did not use checkpoints, but instead had roving patrols search for drunken drivers.

Ventura police will keep the

trailer and other checkpoint equipment, which was paid for with a grant from the California Office of Traffic Safety. Bowman said future checkpoints will cost about \$800 to pay four officers for five hours of overtime each.

Stuster said he could not release his report to the public, and will send it to NHTSA next week. He doesn't expect the government organization, based in Washington, D.C., to release the results for several months.

Stuster's report comes on the heels of the June budget, when City Council voted to phase out the department's traffic unit over the next two years. Overall, the police department only took an 8 percent cut, while the city manager's office took an 18.9 percent cut.

But Ventura police say a crack traffic unit is important not only for reasons of traffic safety, but because the traffic cops often aid other officers.

Stuster, who works for Santa Barbara-based Anacapa Sciences, a behavioral sciences research firm, echoed some of those concerns.

"It's far more likely that you'll be killed by a drunken driver than by gang activity," Stuster said. "But people are willing to strip away traffic funds for something more topical. We saw it with the drug issue."

He added, "The budget crisis is real, but, geez, you lose lives."

Ventura Sun, August 8, 1993

APPENDIX E

**EXAMPLES OF PUBLIC INFORMATION
AND EDUCATION MATERIALS**



SOBRIETY
CHECKPOINT
AHEAD

COMING SOON TO YOUR
NEIGHBORHOOD!



*Please do not
drink and drive.*



The Visalia Police
Department

DRINKING and DRIVING?



Don't even think about it in Ontario!

**Roving patrols that focus on
DUI enforcement...**

**Conducted By
The Ontario Police Department**

Drinking? Designate *Your* Driver



- E 5 -

City of Ventura Sobriety Checkpoint Committee



 **MADD**
Mothers Against Drunk Driving

Special thanks to: Ted Nava, General Home, Buena, Umbrella, Ventura Yellow Cab, Ventura Police Department, and Clark's Printing. Ventura County Star-Free Press photo - Gary Phelps; Scarab Graphics - photo separations.

¿Esta Tomando?

¿Designar una Persona para Manejar?

--E-6--



City of Ventura Sobriety Checkpoint Committee 



 **MADD**
Mothers Against Drunk Driving

Special thanks to Ted May's Funeral Home, Prince's Ambulance, Ventura Yellow Cab, Ventura Police Department, and Clark's Printing. Ventura County Star-Free Press photo - Gary Phelps; Search Graphics - photo separations.

LIVE TO DRIVE

Sobriety check points

Happen in Modesto

Don't give up your life

Just give up your keys

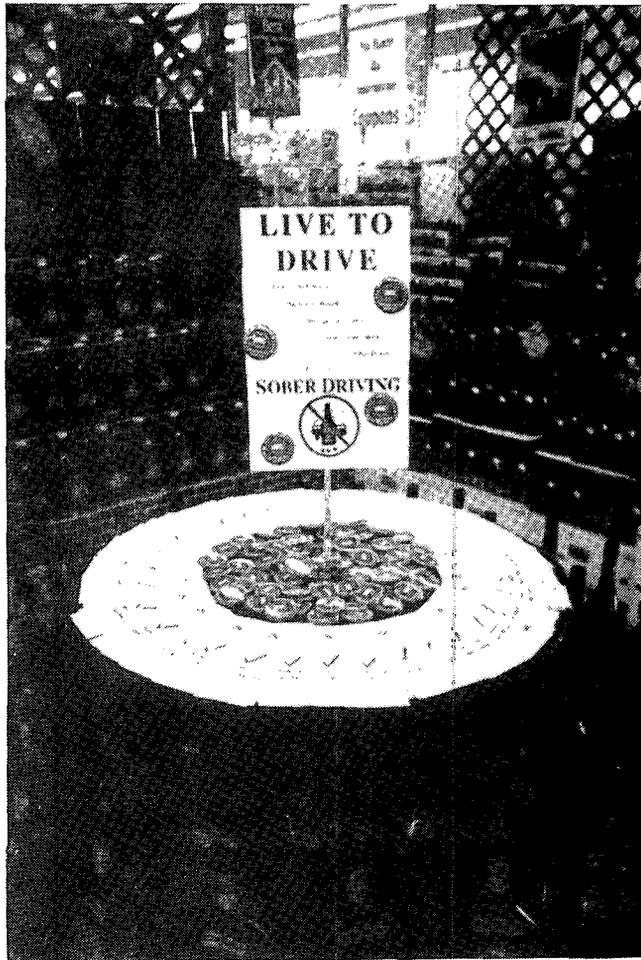
To a Sober Driver

Citizens for

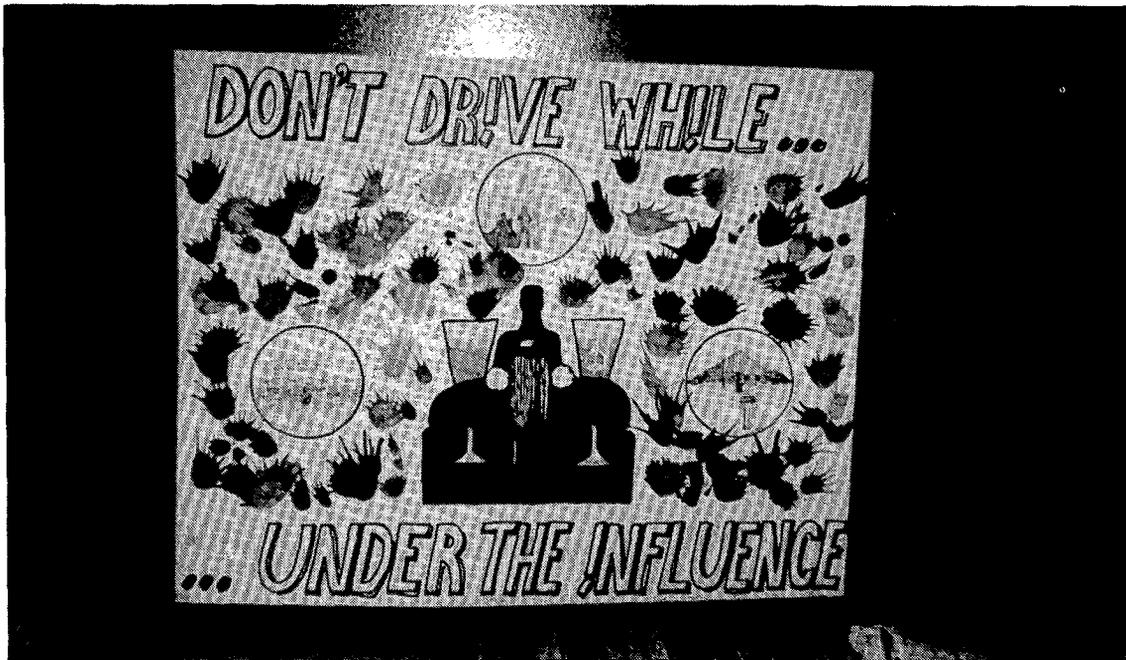
SOBER DRIVING



Liquor department
display in Modesto.



One of two billboards in Ontario.



Winning poster in Modesto's poster contest.

No expiration

This coupon good for life

LIFE-SAVER COUPON

SAVE \$10,000*

No gimmicks, no purchase necessary.

* By driving sober on our streets and highways you are guaranteed a savings of \$10,000. If you are arrested for driving under the influence of alcohol, your average visit to a county jail, a chat with a law enforcement officer, bail, attorney's fees, fines, auto insurance charges, and lost work averages a cost of \$10,000. (See other side for details.)

Designate a driver, call a cab or a friend. PLEASE DON'T DRINK AND DRIVE.

A public service of the City of Ventura Sobriety Checkpoint Program Support Committee.
(For more information call 339-4434)

Estimated Costs of Being Arrested for Drinking and Driving

Penalty/Fine	\$1,500
First Offender Alcohol Program	\$432
(If this is not your first arrest, the Alcohol Program will cost you \$1,274)	
Vehicle Towing	\$55
Vehicle Daily Storage	\$12
Signing Vehicle Release	\$30
Regaining Drivers License from DMV	\$100
Hiring an Attorney	\$1,500
Auto Insurance Costs*, Lost Wages, & Alternate forms of Transportation	\$6,371

*If your insurance company doesn't cancel you on the spot, your premiums will increase from 20% to 300%



Total = **\$10,000**

This concept was developed by the Modesto program support committee, and adopted by the other four committees.

APPENDIX F

SUMMARY OF PROGRAM SUPPORT COMMITTEE ACTIVITIES BY MONTH

SUMMARY OF MAJOR PROGRAM ACTIVITIES

MODESTO'S CITIZENS FOR SOBER DRIVING

SOBRIETY CHECKPOINT PROGRAM

High Staffing Level/No Mobility

JUNE-JULY

The Modesto Traffic Safety Program Support Committee (PSC) (*Citizens for Sober Driving*) was organized in May-June 1992. The committee devoted its attention during June and July to preparations for the kick-off press conference for the sobriety checkpoint program.

AUGUST 1992

- Program Support Committee meetings (2)
- Kick-Off Press Conference (29 July, actually)
- Development of posters
- Distribution of posters to businesses and government locations
- Distribution of posters and flyers at the Stanislaus County Fair (30 July-8 Aug)
- Modesto PD's Sobriety Checkpoint Trailer on display
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 1-2 (one location each)
- DMV Survey
- DWI Data Collection

SEPTEMBER 1992

- Program Support Committee meetings (2)
- Distribution of posters and flyers at the Poultry and Dairy Festival in neighboring Turlock (12-13 September)
- Distribution of posters to local high schools
- Presentations by Corporal Snyder and Officer Garza at Modesto's Hispanic Festival (19-20 September)
- Presentation by Officer Garza on local TV program *Crimeline* (entire program devoted to the Modesto PD's checkpoint program)
- Development of a 1/2-hour series of interviews concerning Modesto's checkpoint program for broadcast during November

September, Continued

- Distribution of flyer announcing Modesto's checkpoint program (flyer included in Modesto city utility bills)
- Public Service Announcements on radio (including some live PSAs)
- Public Service Announcements on television
- Checkpoints Nos. 3-4 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

OCTOBER 1992

- Program Support Committee meetings (2)
- Development of Post-Newsweek Cable documentary about Modesto's checkpoint program from a research perspective
- Planning for the post-holiday poster contest to be conducted in the Modesto City School District (donated prizes include mountain bikes)
- Development of a Speakers' Bureau (with video of checkpoint activity)
- Distribution of program materials at Modesto's International Festival (3-4 October; Modesto PD booth with four MPD motorcycles and officers)
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 5-6 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

NOVEMBER 1992

- Program Support Committee meetings (2)
- Planning for the post-holiday poster contest to be conducted in the Modesto City School District (all schools districts within Modesto will participate)
- Development of poster contest flyers by Doctors Medical Center and the Modesto PD
- Distribution of poster contest flyers to schools
- Requests were made of local businesses for additional prizes for the contest
- Development of the \$10,000 SAVINGS "coupon"

November, Continued

- Distribution of the SAVINGS coupon at supermarkets as a drop-in, and in stores, workplaces, and government offices all over Modesto
- Development of supermarket grocery bags with a *Citizens for Sober Driving* message printed on the side (to be distributed by a supermarket chain beginning in January)
- Further development of the Speakers' Bureau (practice sessions and development of the accompanying slide show)
- Three committee members appeared on *Crimeline*, a local police affairs television show
- Several new Public Service Announcements were prepared for both radio and television for the Holiday season on radio
- Darryl Farnsworth, local reporter was recruited to committee membership, due to minimal coverage of the program by the *Modesto Bee*; coverage improved immediately. Mr. Farnsworth is also contacting the *Bee's* advertising people to inquire about free display ads.
- Lucky Supermarkets permitted the committee to set up an experimental anti-DUI display in the liquor section of a Modesto store. It was a success, so the chain's management is considering displays in other local stores.
- Another 2,000 *Citizens for Sober Driving* posters were printed and distributed throughout the city.
- Checkpoints Nos. 7-8 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

DECEMBER 1992

- Program Support Committee meetings (2)
- Planning for the post-holiday poster contest to be conducted in the Modesto City School District (all schools districts within Modesto will participate)
- Development of poster contest flyers by Doctors Medical Center and the Modesto PD
- Distribution of poster contest flyers to schools
- Requests were made of local businesses for additional prizes for the contest
- Further distribution of the SAVINGS coupon at supermarkets as a drop-in, and in stores, workplaces, and government offices all over Modesto
- Development of supermarket grocery bags with a *Citizens for Sober Driving* message printed on the side (to be distributed by a supermarket chain beginning in January)

December, Continued

- Further development of the Speakers' Bureau (practice sessions and development of the accompanying slide show)
- Broadcast of the new Public Service Announcements on radio and television during the holiday season.
- Display ad published in the *Modesto Bee*.
- Further distribution of Citizens for Sober Driving posters throughout the city.
- Checkpoints Nos. 9-10 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

JANUARY 1993

- Program Support Committee meetings (2)
- Poster contest entry forms were distributed to local school districts. Requests for contest prizes were extended to local arcades, miniature golf courses and the San Francisco 49ers.
- A local country-western radio station collected more than \$200 to replace a stolen sobriety checkpoint sign for the Modesto Police Department. The fund raiser generated extensive free radio and newspaper coverage of the checkpoint program.
- Super Bowl-themed radio and television PSAs were prepared for airing before and during Super Bowl weekend.
- DWI data collection
- The Modesto PD and Citizens for Sober Driving proceeded with preparation of the grant application for the Cal OTS Traffic Safety City Program, to obtain funding for committee activities.
- Further distribution of Citizens for Sober Driving posters throughout the city.
- Checkpoints Nos. 11-12 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

FEBRUARY 1993

- Program Support Committee meetings (2)
- Poster contest entries were collected and judged. The winners will receive prizes at an awards presentation at the March meeting of the Modesto City Council. Prizes will be presented by Mayor Dick Lang.
- A DWI awareness PSA was developed and broadcast by Post-Newsweek Cable featuring (former) baseball star Vida Blue.
- Save Mart supermarkets began distribution of grocery bags displaying the Citizens for Sober Driving logo and message. The bags are being distributed by Save Mart stores throughout the San Joaquin Valley.
- Members of the committee spoke at the Amputee Support Group.
- DWI data collection
- The Modesto PD and Citizens for Sober Driving submitted their grant application for the Cal OTS Traffic Safety City Program, to obtain funding for committee activities.
- Further distribution of both English and Spanish versions of the highly-successful Life Savers Coupon.
- Checkpoints No. 13 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

MARCH 1993

- Program Support Committee meetings (2)
- Poster contest winners received their prizes, ribbons and certificates at an awards presentation at the March meeting of the Modesto City Council. Prizes were presented by Mayor Dick Lang on 16 March.
- A St. Patrick's Day DWI awareness PSA was developed and distributed to local and regional radio stations.
- Save Mart supermarkets continued distribution of grocery bags displaying the Citizens for Sober Driving logo and message. The bags are being distributed by Save Mart stores throughout the San Joaquin Valley.
- Members of the committee spoke at the Soroptimists Club.
- Table tents displaying the "Live to Drive" logo were designed and produced for distribution to area restaurants and bars. Tents were displayed at the Modesto Civilians Club Law Enforcement Officer of the Year Awards Luncheon on 18 March.
- DWI data collection

March, Continued

- The Modesto PD and Citizens for Sober Driving submitted their grant application for the Cal OTS Traffic Safety City Program, to obtain funding for committee activities.
- Further distribution of both English and Spanish versions of the highly-successful Life Savers Coupon.
- Checkpoints No. 14 and 15 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

APRIL 1993

- Program Support Committee meetings (2)
- Save Mart supermarkets continued distribution of grocery bags displaying the Citizens for Sober Driving logo and message. The bags are being distributed by Save Mart stores throughout the San Joaquin Valley.
- Table tents displaying the "Live to Drive" logo were distributed to area restaurants and bars.
- DWI data collection
- Further distribution of both English and Spanish versions of the highly-successful Life Savers Coupon.
- Checkpoints No. 16 - 18 (one location each)
- Press releases/newspaper articles about checkpoint results.
- PSAs on radio and television
- DMV Survey
- DWI Data Collection

SUMMARY OF MAJOR PROGRAM ACTIVITIES

ONTARIO RIDE PROGRAM SUPPORT COMMITTEE

ROVING PATROLS THAT FOCUS ON DUI ENFORCEMENT

JUNE-JULY

The Ontario Traffic Safety Program Support Committee (PSC) was organized in May-June 1992. The committee devoted its attention during June and July to preparations for the kick-off press conference for the roving patrol program.

AUGUST 1992

- Program Support Committee meetings (2)
- Kick-Off Press Conference (3 August)
- Distribution of 10,000 flyers announcing program during Ontario Night Out (linking Ontario's RIDE program to ONO news media coverage)
- Presentation to high school principal's meeting by Cecelia Huggins
- Cable TV interviews by SGT Gettings and Cecelia Huggins (1/2 -hour program)
- Public Service Announcements on radio
- Public Service Announcements on television
- Roving Patrol Nights Nos. 1-6
- DMV Survey
- DWI Data Collection

SEPTEMBER 1992

- Program Support Committee meeting
- Development of posters (Spanish and English language versions)
- Development of PSC letterhead for press releases, etc.
- Recruitment of Omnitrans for free display ads on busses in Ontario
- Distribution of program materials at the Los Angeles County Fair
- Public Service Announcements on radio
- Public Service Announcements on television
- Pre-Labor Day press release about program/newspaper article based on reporter riding along with special DWI patrol
- Article describing Ontario's RIDE program by PSC committee member Conrad Douma published in *CASA Newsletter*

September, Continued

- Roving Patrol Nights Nos. 7-13
- DMV Survey
- DWI Data Collection

OCTOBER 1992

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local schools, businesses, and places of employment
- Distribution of RIDE program materials at Ontario's Grape Harvest Festival (8-11 October)
- MADD Red Ribbon Week media tie-in
- Ontario High School Homecoming media tie-in
- Display of crashed car and program posters and flyers at Chaffy High School
- Simulated DWI crash at Ontario High School, attended by all students who are licensed drivers (Ontario RIDE program posters and materials displayed)
- Public Service Announcements on radio
- Public Service Announcements on television
- Press releases about program and media events/newspaper article based on simulated DWI crash
- Roving Patrol Nights Nos. 14-20
- DMV Survey
- DWI Data Collection

NOVEMBER 1992

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- Cecelia Huggins, Chair of the Ontario RIDE PSC negotiated with Omnitrans (the bus company) and obtained an offer of \$25,000 worth of advertising space on buses, but the PSC would need \$1,800 to have the posters made; the PSC currently has insufficient resources.
- So, Cecelia negotiated with an outdoor advertising company and obtained two billboards for six weeks free; the committee must pay only \$450 for the signs to be made.
- Committee member Al Irwin worked to obtain a joint resolution of the State legislature supporting the Ontario RIDE program during 3-D month.

November, Continued

- Public Service Announcements on radio
- Public Service Announcements on television
- Press releases about Ontario RIDE enforcement
- Roving Patrol Nights Nos. 21-26
- DMV Survey
- DWI Data Collection

DECEMBER 1992

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- PSC chair, Cecelia Huggins, negotiated with an outdoor advertising company and obtained two billboards for six weeks free; the committee paid only \$450 for the signs to be made. Billboards were developed with the RIDE Program theme.
- Distribution of 3-D month posters with tie-in to RIDE program.
Distribution of RIDE posters.
- Distribution of 10,000 "Savings" flyers as a supermarket drop-in.
- The PSC maintained a booth at the CPC Wellness Expo.
- Committee Co-chair, Al Irwin (Chief of Staff to Senator Ayala) presented a joint resolution of the State Legislature to the Ontario PD and the PSC.
- MADD candlelight vigil tie-in.
- Drive time interviews of police personnel about the program on Spanish language station KNSE.
- Development of Spanish language speakers bureau.
- Simulated crash at Etawanda High School--RIDE media tie-in.
- Installation of two billboards prominently-located in Ontario.
- Public Service Announcements on radio
- Public Service Announcements on television
- Press releases about Ontario RIDE enforcement
- Roving Patrol Nights Nos. 27-32
- DMV Survey
- DWI Data Collection

JANUARY 1993

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- Two billboards with the Ontario RIDE program message were installed during the first week of January.
- Distribution of an additional 10,000 "Lifesavers" coupons through all Stater Bros. Supermarkets, auto parts stores, and other businesses.
- Publication of an article about the RIDE Program in the *Inland Valley Daily Bulletin*.
- Continued development of Ontario's application to the Cal OTS Traffic Safety City Program. The application will be reviewed by the City Council in early February, then submitted to Cal OTS. We are hopeful that funds will be available for additional PI&E before then end of our experimental program.
- Press releases about Ontario RIDE enforcement
- Roving Patrol Nights Nos. 33-38
- Public Service Announcements on radio
- Preparation for an Ontario Cable TV interview program about the RIDE program.
- DMV Survey
- DWI Data Collection

FEBRUARY 1993

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- The two billboards with the Ontario RIDE program message remained on display through February.
- Distribution of an additional 10,000 "Lifesavers" coupons through all Stater Bros. Supermarkets, auto parts stores, and other businesses.
- Attempts were made to stimulate publication of an article about the RIDE Program in the *Los Angeles Times, Inland Valley Section*. Assurances were made that an article will appear before the end of the field study.
- The Ontario PSC and Ontario PD submitted their application to the Cal OTS Traffic Safety City Program. The application was endorsed by the City Council in early February.
- Presentation about RIDE Program at Soroptimist Club.
- Press releases about Ontario RIDE enforcement

February, Continued

- Roving Patrol Nights Nos. 39-44
- Development and broadcast of new Public Service Announcement on radio.
- Broadcast of an interview with Ontario PD and PSC member on ComCast Cable program "Ontario-About Town" (broadcast twice in February).
- DMV Survey
- DWI Data Collection

MARCH 1993

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- The two billboards with the Ontario RIDE program message remained on display through February.
- Distribution of an additional 10,000 "Lifesavers" coupons through all Stater Bros. Supermarkets, auto parts stores, and other businesses.
- Further attempts were made to stimulate publication of an article about the RIDE Program in the *Los Angeles Times, Inland Valley Section*. Assurances were made by the editors that an article will appear before the end of the field study.
- The Ontario PSC and Ontario PD received word from Cal OTS that their application to the Cal OTS Traffic Safety City Program will require an additional application form.
- Presentation about RIDE Program at Optomists Club.
- Press releases about Ontario RIDE enforcement
- Roving Patrol Nights Nos. 45-51
- DMV Survey
- DWI Data Collection

APRIL 1993

- Program Support Committee meeting
- Distribution of posters (Spanish and English language versions) to local businesses
- The two billboards with the Ontario RIDE program message remained on display through April.
- Distribution of an additional 10,000 "Lifesavers" coupons through all Stater Bros. Supermarkets, auto parts stores, and other businesses.

April, Continued

- Further attempts were made to stimulate publication of an article about the RIDE Program in the *Los Angeles Times, Inland Valley Section*. Assurances were made by the editors that an article will appear before the end of the field study.
- RIDE Program information was distributed to DATE coordinators at all local high schools.
- RIDE Program information presented to Chaffey High School students during a date rape educational program.
- RIDE Program was discussed during presentation of Alcohol Awareness Month proclamation. The proclamation by the California Assembly and Senate was arranged by Al Irwin and presented by committee co-chairs Cecelia Huggins and Al Irwin to the Chaffey Joint Union High School District Board (seven local high schools).
- RIDE materials and the LIFESAVER coupon were distributed at the Alcohol Awareness Table in front of the Pomona First Federal Bank in downtown Ontario.
- All remaining LIFESAVER coupons were distributed to bars and restaurants by the local Budweiser distributor.
- Press releases about Ontario RIDE enforcement
- Roving Patrol Nights Nos. 52-58
- DMV Survey
- DWI Data Collection

SUMMARY OF MAJOR PROGRAM ACTIVITIES
SANTA ROSA TRAFFIC SAFETY PROGRAM SUPPORT COMMITTEE
SOBRIETY CHECKPOINT PROGRAM
High Staffing Level/High Mobility

JUNE-JULY

The Santa Rosa Traffic Safety Program Support Committee (PSC) was organized in May-June 1992. The committee devoted its attention during June and July to preparations for the kick-off press conference for the sobriety checkpoint program.

AUGUST 1992

- Program Support Committee meeting
- Kick-Off Press Conference (10 August)
- Distribution of State Farm flyer
- Presentation to Chamber of Commerce (200 people) by LT Sverko
- Presentation to Responsible Hospitality Coalition by SGT Hayes
- Checkpoint No. 1 (three locations)
- DMV survey
- DWI data collection

SEPTEMBER 1992

- Program Support Committee meeting
- Cable Channel 50 live coverage and interviews from a Santa Rosa PD checkpoint
- Presentation by CHP Officer Rodriguez and SRPD Officer Sanchez on KBBF radio (1/2-hour interview program in Spanish)
- Development and distribution of special z-fold brochure to SR Junior College students and auto parts stores
- Distribution of letter by Responsible Hospitality Coalition to all liquor licensees in Sonoma County describing the SRPD's checkpoint program
- Checkpoints Nos. 3-4 (three locations each)
- Press releases/newspaper articles about checkpoint results
- DMV survey
- DWI data collection

OCTOBER 1992

- Program Support Committee meeting
- Distribution of special z-fold brochure at auto parts stores
- Presentation and distribution of flyers at West Santa Rosa Rotary Club by Dolores Colon, Santa Rosa DMV manager
- Presentation and distribution of flyers at the Lions Club by LT Sverko
- Presentation to Santa Rosa High School students by Nancy Hauser, Santa Rosa PSC chair and Sonoma County Alcohol Services Specialist
- Checkpoints Nos. 5-6 (three locations each)
- Press releases/newspaper articles about checkpoint results
- DMV survey
- DWI data collection

NOVEMBER 1992

- Program Support Committee meeting
- Distribution of flyers at Santa Rosa Junior College
- Two Santa Rosa High Schools students attend checkpoint then write articles for their school newspaper
- Published Sobriety Checkpoint information in City Employee's Newsletter
- Further development of the Santa Rosa Sobriety Checkpoint program poster
- Checkpoints Nos. 6-7 (three locations each)
- Press releases/newspaper articles about checkpoint results
- DMV survey
- DWI data collection

DECEMBER 1992

- Program Support Committee meeting
- Distribution of flyers via DMV outgoing mail, Auto Club and Orinda Mall.
- Articles written by Sam Van Arsdale published in the December issue of *Redwood Log*, the State Farm newsletter.
- Article published in the *Santa Rosa Press Democrat* about the checkpoint program.
- Checkpoint covered by *Santa Rosa Press Democrat*.

December, Continued

- Further development of the Santa Rosa Sobriety Checkpoint program poster.
- Barbara Graves spoke at Santa Rosa Jr. College about the program.
- Student interview with SRJC newspaper.
- LT Sverko was a talk show guest on KZST and discussed the program.
- SGT Hayes was interviewed about the program by Channel 50 TV News.
- Checkpoints Nos. 8-9 (three locations each)
- Press releases/newspaper articles about checkpoint results
- DMV survey
- DWI data collection
- Attempts to have PSAs broadcast on local radio have been unsuccessful because the stations are owned by local vintners who have policies against DUI-countermeasure messages.

JANUARY 1993

- Program Support Committee meeting
- Distribution of flyers via DMV outgoing mail
- Distribution of "Lifesaver" coupons and flyers by Sonoma County Alcohol Services
- Further development of the Santa Rosa Sobriety Checkpoint program poster
- Checkpoints Nos. 10-11 (three locations each)
- Press releases/newspaper articles about checkpoint results
- DMV survey
- DWI data collection
- Attempts to have PSAs broadcast on local radio have been unsuccessful because the stations are owned by local vintners who have policies against DUI-countermeasure messages.

FEBRUARY 1993

- Program Support Committee meeting
- Distribution of flyers through businesses and organizations, by DMV in correspondence, and by Sonoma County Alcohol Services.
- Distribution of "Lifesaver" coupons through businesses and organizations.

February, Continued

- Distribution of 15,000 Lifesaver Coupons through auto parts stores.
- Distributed coupons through California State Auto Association and distributed Spanish language version coupons to Hispanic alcohol programs offices.
- Checkpoints No. 12 (three locations each)
- Press releases/newspaper articles about checkpoint results
- Article in the MADD Newsletter
- Two radio stations finally agreed to create and broadcast PSAs concerning the sobriety checkpoint program (most stations are owned by local vintners)
- DMV survey
- DWI data collection

MARCH 1993

- Program Support Committee meeting
- Distribution of flyers through businesses and organizations, by DMV in correspondence, and by Sonoma County Alcohol Services.
- Distribution of "Lifesaver" coupons through businesses and organizations.
- Distribution of 15,000 Lifesaver Coupons through auto parts stores.
- Distributed coupons through California State Auto Association and distributed Spanish language version coupons to Hispanic alcohol programs offices, to Latino parents' groups, and to County Courthouse.
- LT Sverko discussed the checkpoint program as a MADD guest speaker.
- Checkpoints No. 13-16 (three locations each)
- Press releases/newspaper articles about checkpoint results
- Article in *The Paper*.
- Two radio stations finally agreed to create and broadcast PSAs concerning the sobriety checkpoint program (most stations are owned by local vintners)
- DMV survey
- DWI data collection

APRIL 1993

- Program Support Committee meeting
- Distribution of flyers through businesses and organizations, by DMV in correspondence, and by Sonoma County Alcohol Services.
- Distribution of "Lifesaver" coupons through businesses and organizations, and at the county courthouse.
- Sam Van Arsdale wrote another article for the State Farm Newsletter.
- Nancy Hauser made a DUI presentation at local high schools.
- Checkpoint No. 17 (three locations; No. 18 TBD early May)
- Press releases/newspaper articles about checkpoint results
- PSAs on radio
- DMV survey
- DWI data collection

SUMMARY OF MAJOR PROGRAM ACTIVITIES
VENTURA TRAFFIC SAFETY PROGRAM SUPPORT COMMITTEE
SOBRIETY CHECKPOINT PROGRAM

Low Staffing Level/High Mobility

JUNE-JULY

The Ventura Traffic Safety Program Support Committee (PSC) was organized in May-June 1992. The committee devoted its attention during June and July to preparations for the kick-off press conference for the sobriety checkpoint program.

AUGUST 1992

- Program Support Committee meeting
- Kick-Off Press Conference (30 July, actually)
- Development of PSC letterhead for press releases, etc.
- Ventura PD's Sobriety Checkpoint Trailer on display at the MADD booth and crashed car at the entrance to the Ventura County Fair (19-30 August)
- Checkpoints Nos. 1-2 (three locations each)
- DMV Survey
- DWI Data Collection

SEPTEMBER 1992

- Program Support Committee meetings (2)
- Presentation to Ventura College students by SGT Morris
- Presentation to block captains of the Neighborhood Watch program by SGT Morris
- Presentation to Cal Trans employees by SGT Morris
- Article describing the Ventura PD's checkpoint program by SGT Morris published in the *Ventura Crime Stopper*
- Ventura PD's checkpoint trailer on display at the open house of the California Youth Authority
- Checkpoints Nos. 3-4 (three location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

OCTOBER 1992

- Program Support Committee meeting
- SGT Morris and PSC/MADD member Linda Oxenreider were interviewed during a local radio broadcast concerning the Ventura checkpoint program (1/2-hour broadcast)
- Display of the Ventura PD's checkpoint trailer at the Oxnard College Drug Awareness Day (21 October)
- Display of the Ventura PD's checkpoint trailer at the Ventura House and Garden Show, held at the Ventura County Fairgrounds (23-25 October)
- Presentation by County Medical Services personnel during seminar at Rio Mesa High School (the Ventura PD's checkpoint trailer was on display)
- Development of poster
- Checkpoints Nos. 5-6 (three location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

NOVEMBER 1992

- Program Support Committee meeting
- LT Bowman displayed the Ventura Checkpoint Trailer and a crashed car at the Ventura Parks and Recreation Bicycle Rodeo
- Display of the Ventura PD's checkpoint trailer at Ventura College
- SGT Morris provided a 15-minute interview about the program on Cable TV
- The committee conducted a photo "shoot" at a local cemetery for the poster that is in development
- Dale Hoffman, Director of Friday Night Live, taped PSAs at a local radio station and obtained agreements from five stations to broadcast the PSAs
- Checkpoints Nos. 7-8 (three location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

DECEMBER 1992

- Program Support Committee meeting
- A second article about the checkpoint program was published in the *Crime Reporter*.
- An article about the program was published in the City of Ventura Employee *Newsletter*.
- The committee and police department participated in MADD's Red Ribbon Press Conference; SGT Morris spoke about the checkpoint program and displayed the Ventura PD's checkpoint trailer.
- An article was published in the Star Free Press about the National Drunk and Drugged Driving Awareness Month, which included information about the checkpoint program.
- The committee and police department participated in MADD's candlelight vigil; SGT Morris spoke about the checkpoint program.
- LT Bowman gave a half-hour interview about the program on KVEN radio
- The Ventura PD's checkpoint trailer was displayed at the Ventura County Street Fair.
- Checkpoints Nos. 9-11 (three location each)
- Press releases/many newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

JANUARY 1993

- Program Support Committee meeting.
- "Lifesavers" coupons were distributed through local businesses and the Chamber of Commerce.
- An article about the "Lifesavers" coupons and the checkpoint program was published in the *Star Free Press*.
- The new Ventura Sobriety Checkpoint poster was distributed to all restaurants, liquor stores, bars, and mini-marts in the city.
- The Ventura PD's sobriety checkpoint trailer was displayed at the Ventura College.
- Checkpoints Nos. 12-13 (three location each)
- Press releases/many newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

FEBRUARY 1993

- Program Support Committee meeting.
- "Lifesavers" coupons were distributed through local businesses and the Chamber of Commerce.
- An article about the "Lifesavers" coupons and the checkpoint program was published in the *Ventura County Reporter*.
- Continued distribution of the new Ventura Sobriety Checkpoint poster to all restaurants, liquor stores, bars, and mini-marts in the city.
- Distributed posters and ribbons at Ventura School, CA Youth Authority.
- Presentation about the program, and distribution of posters and coupons, at the Ventura Beach Optimist Club, Lion's Club, and Pt. Mugu Drug Abuse Program, and Valley View Junior High School.
- MADD distributed Lifesaver coupons with all correspondence
- Presentation about the program, and distribution of posters and coupons, at the Ventura Harbor Merchants' Association.
- Checkpoints Nos. 14-16 (three location each)
- Press releases/many newspaper articles about checkpoint results
- PSAs continue to be aired on three local radio stations
- DMV Survey
- DWI Data Collection

MARCH 1993

- Program Support Committee meeting.
- "Lifesavers" coupons were distributed through local businesses, the Chamber of Commerce.
- Checkpoint trailer and crashed car were displayed at the Home and Garden Show, and Lifesaver Coupons were distributed.
- Distributed coupons to Corrections Services, health care services, liquor stores, radio stations, and mini-marts.
- Continued distribution of the new Ventura Sobriety Checkpoint poster to all restaurants, liquor stores, bars, and mini-marts in the city.
- MADD distributed Lifesaver coupons with all correspondence
- Presentation about the program, and distribution of posters and coupons, at the Ventura Harbor Merchants' Association.
- Checkpoints No. 17 (three location)
- Press releases/many newspaper articles about checkpoint results

March, Continued

- PSAs continue to be aired on three local radio stations
- DMV Survey
- DWI Data Collection

APRIL 1993

- Program Support Committee meeting.
- "Lifesavers" coupons were distributed through local businesses and the Chamber of Commerce.
- SGT Morris was interviewed on KVEN and KHAY radio, and by reporters from the Star-Free Press, LA Daily News, and KEYT-TV regarding the checkpoint study and program.
- SGT Morris was interviewed on KVEN and KHAY radio the 9 April checkpoint.
- SGT spoke to groups of city employees about DUI and the checkpoint program.
- SGT Morris and Dr. Trebow were interviewed on the local cable channel program "How It Works."
- Distributed coupons to Corrections Services, health care services, liquor stores, radio stations, and mini-marts.
- Continued distribution of the new Ventura Sobriety Checkpoint poster to all restaurants, liquor stores, bars, and mini-marts in the city.
- MADD's Victim's Rights Week included displays of the crashed car and the sobriety checkpoint trailer.
- Checkpoints No. 18 (three location)
- Press releases/newspaper articles about checkpoint results
- PSAs continue to be aired on three local radio stations
- DMV Survey
- DWI Data Collection

SUMMARY OF MAJOR PROGRAM ACTIVITIES

VISALIA'S FOCUS ON SOBER DRIVING

SOBRIETY CHECKPOINT PROGRAM

Low Staffing Level/No Mobility

JUNE-JULY

The Visalia Traffic Safety Program Support Committee (PSC) (FOCUS on *Sober Driving*) was organized in May-June 1992. The committee devoted its attention during June and July to preparations for the kick-off press conference for the sobriety checkpoint program.

AUGUST 1992

- Program Support Committee meetings (2)
- Kick-Off Press Conference (27 July, actually)
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 1-2 (one location each)
- DMV Survey
- DWI Data Collection

SEPTEMBER 1992

- Program Support Committee meetings (2)
- Development of special TV PSA using MTV-provided video
- Development of special TV PSA for FOX Network using DWI victim
- Development of posters (Spanish and English language versions)
- Obtained free display advertising space in *San Joaquin Senior Advocate*
- PSC Chairman Michael Harrison was the featured guest on a radio interview show devoted to Visalia's checkpoint program (to be broadcast October)
- Distribution of program materials (brochures and bumper stickers) at the Tulare County Fair (14-22 September)
- The Visalia PSC (FOCUS on Sober Driving) received a proclamation from the governor's office congratulating the committee for their efforts
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 3-4 (one location each)

September, Continued

- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

OCTOBER 1992

- Program Support Committee meetings (2)
- Development of special TV PSA by local station (Spanish and English language versions)
- Distribution of posters (Spanish and English language versions) to bars, restaurants, county youth services, migrant farm workers' center, county alcohol and drug services office, and DMV office
- Developed and published a display ad in the *San Joaquin Senior Advocate*
- PSC Chairman Michael Harrison was the featured guest on a radio interview show devoted to Visalia's checkpoint program (to be broadcast October)
- Distribution of flyers provided by DMV at government buildings
- FOCUS received a \$200 grant from the local United Way to support PI&E
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 5-6 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

NOVEMBER 1992

- Program Support Committee meetings (2)
- Development of flyer version of the FOCUS "Sobriety Checkpoint Ahead" poster
- Distribution of flyers to the 2,000 members of the Visalia Chamber of Commerce
- Distribution of 1,000 Spanish language flyers in work areas and at the Tulare County Flea Market
- The Visalia PD donated a float to the committee for inclusion in the annual Candy Cane Lane Parade in Visalia (November 30). The float was decorated in a holiday theme with a banner displaying the FOCUS message: Sobriety Checkpoints coming soon to your neighborhood. The Visalia PD's sobriety checkpoint trailer was also in the parade (with a crowd estimated to be more than 10,000)

November, Continued

- Donation by the International Agricultural Center (a rodeo venue) of time on its electronic billboard in Tulare (10 miles south of Visalia). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 7-8 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

DECEMBER 1992

- Program Support Committee meetings (2)
- Distribution of flyers to the 2,000 members of the Visalia Chamber of Commerce
- Distribution of 1,000 Spanish language flyers in work areas and at the Tulare County Flea Market
- Continued display of PI&E message on the electronic bulletin board donated by the International Agricultural Center (a rodeo venue). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 9-10 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

JANUARY 1993

- Program Support Committee meetings (2)
- Distribution of additional flyers to the 2,000 members of the Visalia Chamber of Commerce
- Continued display of PI&E message on the electronic bulletin board donated by the International Agricultural Center (a rodeo venue). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Distribution of "Lifesavers" coupon at supermarkets, stores, workplaces, and government offices.
- MADD anti-DUI video shown at monthly meeting of the Visalia Chamber of Commerce.
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 11-12 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

FEBRUARY 1993

- Program Support Committee meetings (2)
- The most recent FOCUS on Sober Driving PSA was nominated for the 1993 Central California Addy Award by the Fresno Advertising Federation.
- Continued display of PI&E message on the electronic bulletin board donated by the International Agricultural Center (a rodeo venue). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Distribution of "Lifesavers" coupon at supermarkets, stores, workplaces, and government offices.
- News coverage of the program included a full-page spread in the Visalia *Times-Delta* describing DUI problems in Visalia and the PD's use of innovative sobriety checkpoint methods.
- Distribution of the Modesto committee's grocery bags at Save Mart stores.
- A Visalia PD traffic officer spoke to the Sequoia Lion's Club about the checkpoint program.

February, Continued

- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 13-14 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

MARCH 1993

- Program Support Committee meetings (2)
- The recent FOCUS on Sober Driving PSA was awarded the 1993 Central California Addy Award by the Fresno Advertising Federation, for being the best PSA of 1993!
- Continued display of PI&E message on the electronic bulletin board donated by the International Agricultural Center (a rodeo venue). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Distribution of "Lifesavers" coupon at supermarkets, stores, workplaces, and government offices.
- Distribution of the Modesto committee's grocery bags at Save Mart stores.
- A Visalia PD traffic officer spoke to the Sequoia Lion's Club about the checkpoint program.
- Public Service Announcements on radio
- Public Service Announcements on television
- Checkpoints Nos. 15-16 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection

APRIL 1993

- Program Support Committee meetings (2)
- The award-winning FOCUS on Sober Driving PSA was broadcast on local television.

April, Continued

- Continued display of PI&E message on the electronic bulletin board donated by the International Agricultural Center (a rodeo venue). The billboard is located along the US 99 freeway, a major north-south route through Tulare County. The FOCUS display ad began in mid-November and features the FOCUS logo and "coming soon..." message.
- Distribution of "Lifesavers" coupon at supermarkets, stores, workplaces, and government offices.
- Distribution of the Modesto committee's grocery bags at Save Mart stores.
- Public Service Announcements on radio and television.
- Checkpoints Nos. 17 - 18 (one location each)
- Press releases/newspaper articles about checkpoint results
- DMV Survey
- DWI Data Collection